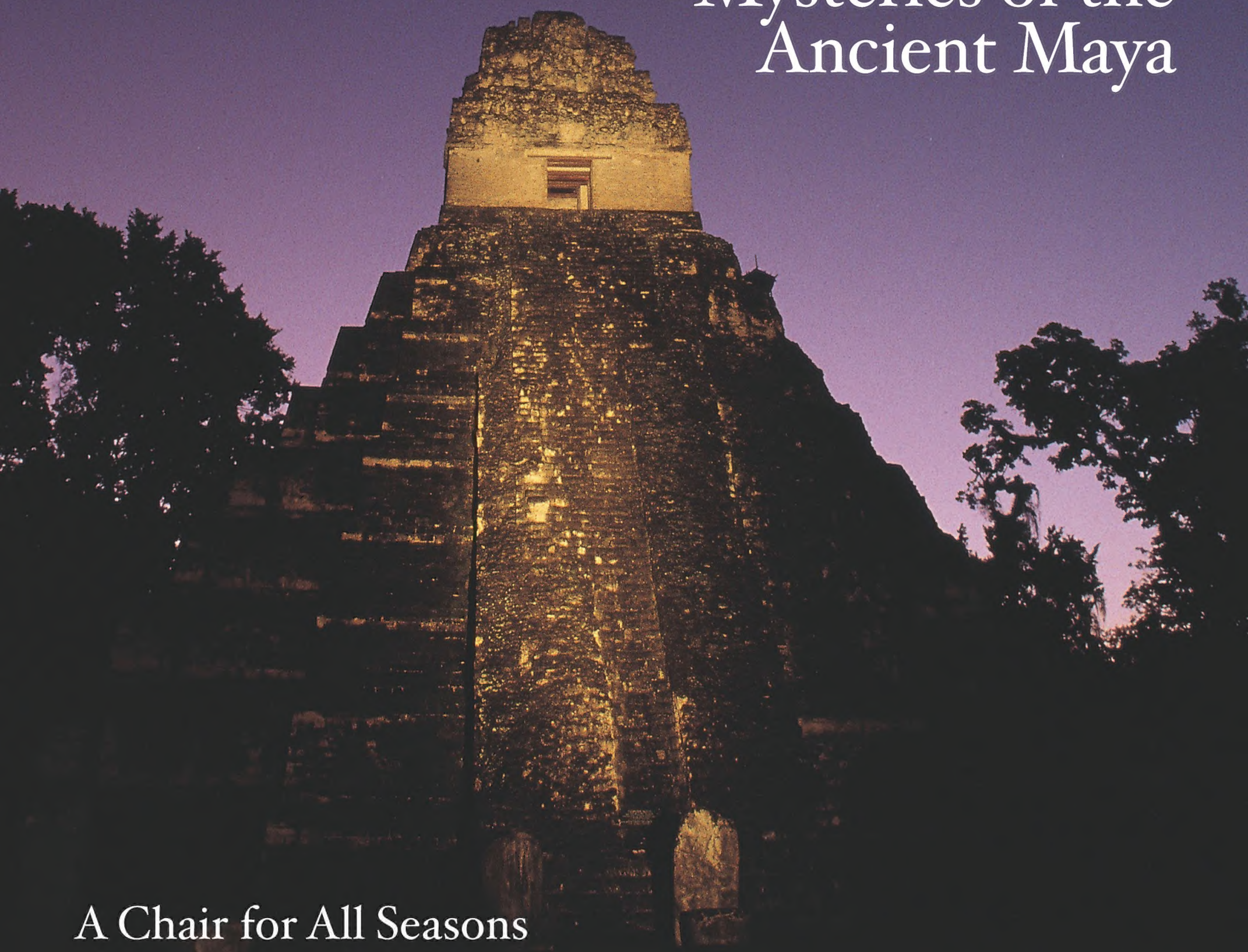
JULY 2004

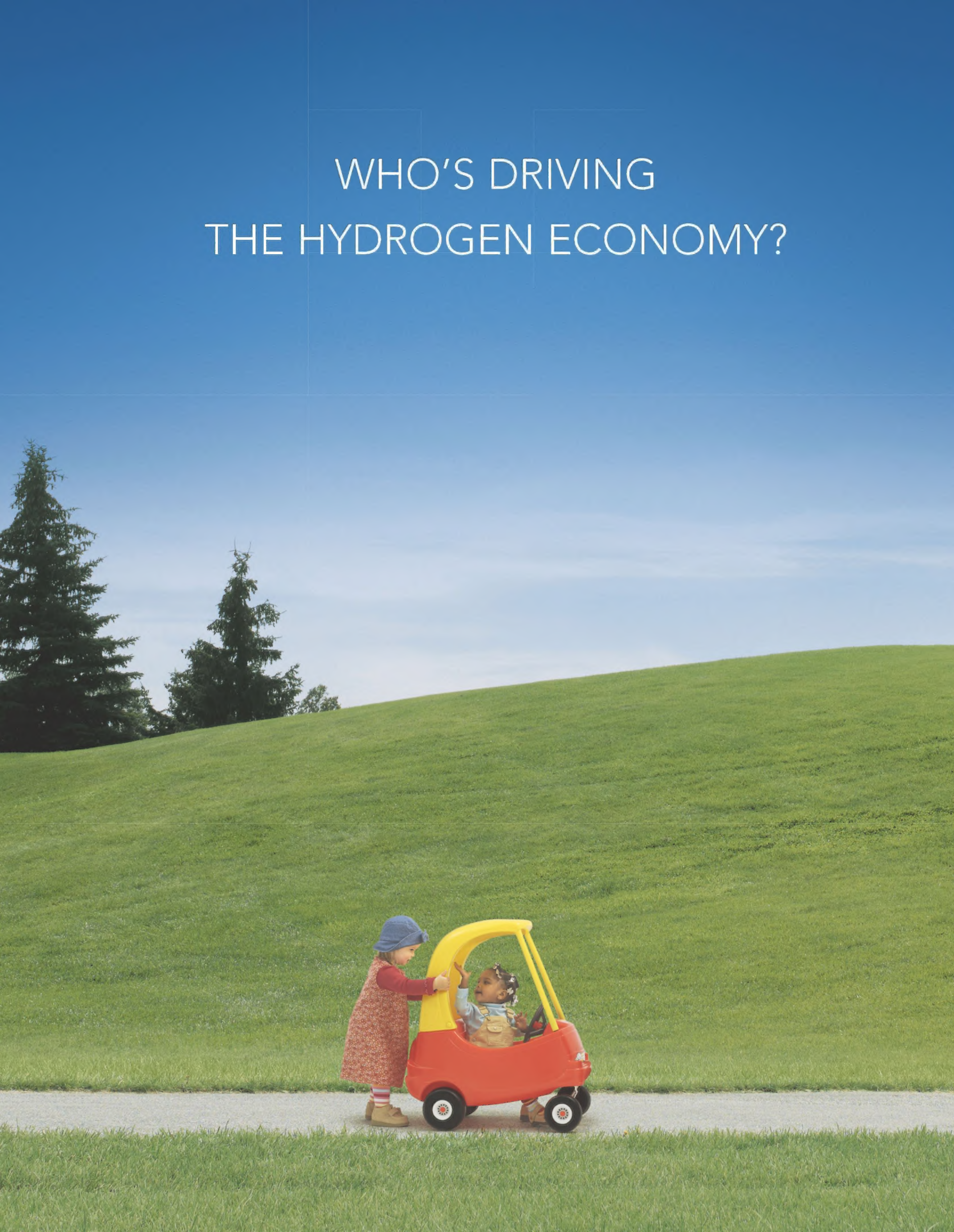
Smithsonian

BEGUILING TIKAL
Mysteries of the Ancient Maya



A Chair for All Seasons
Cole Porter: Anything Goes
Hubble: The Last Picture Show?
Pakistan, America's Conflicted Ally
1776—You Say You Want a Revolution?

WHO'S DRIVING THE HYDROGEN ECONOMY?



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FEATURES

"AMERICA'S WAR with the mother country had commenced when a British army of nearly 900 had marched from Boston to Concord, intending to destroy a colonial arsenal and, if possible, capture ringleaders John Hancock and Samuel Adams."
—"THE ROCKY ROAD TO REVOLUTION," PAGE 96

66 The Hubble telescope photographed the Cat's Eye Nebula, 3,000 light-years away, in 1994.

58 Many of Cole Porter's lyrics dealt with subjects that were taboo at the time.

80 Today's Pakistan (above, nightlife on Anarkali Street in Lahore) is torn by contradictions.

42 SECRETS OF THE MAYA: DECIPHERING TIKAL
Clues to the not-so-peaceful people who left behind magnificent ruins have only recently been fully decoded, turning our assumptions upside down
BY DAVID ROBERTS / PHOTOGRAPHS BY WOLFGANG KAEHLER

49 OF MAJESTY AND MAYHEM
A new exhibition of Maya artworks, from elaborate stone carvings and jade masks to grisly murals and vase paintings, illuminates the pageantry—and brutality—of Mesoamerican court life more than 1,000 years ago
BY STANLEY MEISLER

58 WHAT IS THIS THING CALLED LOVE?
Cole Porter, the subject of a new movie, was one of America's wittiest and most innovative composers. But his unconventional marriage steals the show
BY ROBERT F. HOWE

66 HUBBLE'S LAST HURRAHS?
The satellite telescope that's captured some of the most wondrous images in the universe—and vastly enlarged our knowledge of it—may not be long for this world
BY LAURA HELMUTH

74 EVERYBODY TAKE A SEAT
It may be history's most popular chair, gracing everything from royal palaces in war zones to the most primitive of shelters. But is it sitting pretty?
BY MARIANA GOSNELL / PHOTOGRAPH BY CHIP SIMONS

80 LETTER FROM LAHORE: REINVENTING PAKISTAN
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BY MOHSIN HAMID / PHOTOGRAPHS BY ED KASHI

96 THE ROCKY ROAD TO REVOLUTION
After war with Britain broke out in April 1775, a bitterly divided Continental Congress would take 14 months to declare America's independence
BY JOHN FERLING

ON THE COVER Scholars long believed that the Maya (here, Tikal, in Guatemala) were a peaceful people who studied the stars and the mysteries of the calendar. Not exactly. *PHOTOGRAPH BY KENNETH GARRETT.*

49 This intricate, A.D. 600-900 ceramic figurine of a priest from Jaina, a Maya site in southern Mexico, is part of a new exhibit at the National Gallery of Art in Washington, D.C.

J. P. HARRINGTON AND K. J. BORKOWSKI / UNIVERSITY OF MARYLAND, AND NASA; CULVER PICTURES; ED KASHI; METROPOLITAN MUSEUM OF ART

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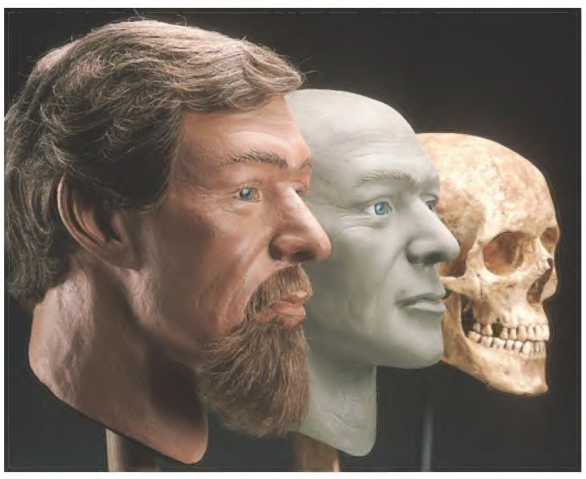
JULY 2004 VOLUME 35, NUMBER 4

DEPARTMENTS

"IF THE BED of Yellowstone Lake bursts open, lakeside picnickers could see a tsunami or truck-size rocks heading their way. I wouldn't want to be here. Except, maybe, in an airplane."
—*"YELLOWSTONE GRUMBLES," PAGE 32*



37 The identities of sailors aboard a doomed Civil War submarine are gradually taking shape.

32 Is Yellowstone National Park due soon for another major hydrothermal explosion?

107 "My design is not to write histories," Plutarch explained of his biographies, "but *lives*."

20 Architect Paolo Soleri insists that Arcosanti, his prototype community near Phoenix, makes a "lean alternative" to urban sprawl.

17 INDELIBLE IMAGES *Dazzle by the Dozen*

Photographer Irving Penn's portrait of 12 high-fashion models evokes the elegance and sophistication of another time *BY OWEN EDWARDS*

20 THE OBJECT AT HAND *Splendid Isolation*

The first stop for Apollo 11 astronauts returning from the Moon? Quarantine in a souped-up mobile home *BY OWEN EDWARDS*

28 POINTS OF INTEREST *The Anti-Burb*

Arcosanti, an experimental community in the Arizona desert, represents Paolo Soleri's rejoinder to suburban blight. Will it *ever* be finished?
BY ROBERT EARLE HOWELLS

32 PHENOMENA & CURIOSITIES *Yellowstone Grumbles*

Volcanologists monitoring the park's hydrothermal activity keep their eyes on a suspicious and potentially deadly bulge beneath Yellowstone Lake
BY KEVIN KRAJICK

107 PRESENCE OF MIND *Plutarch's Exemplary Lives*

An ancient Greek who understood humanity's love of gossip and scandal still informs today's bestselling biographies *BY LANCE MORROW*

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Oct

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Nov

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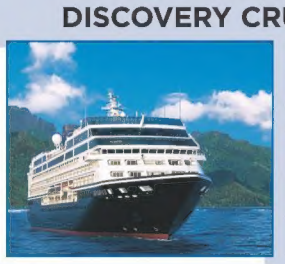

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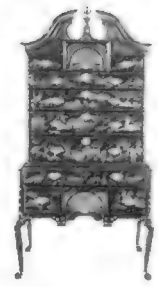

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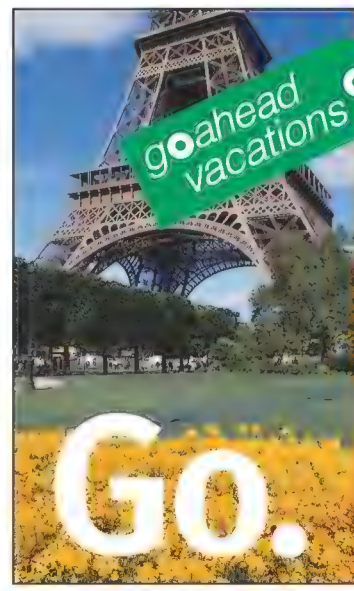

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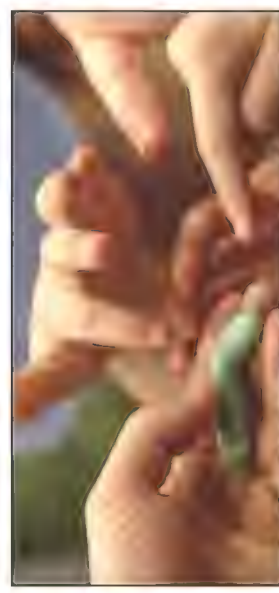

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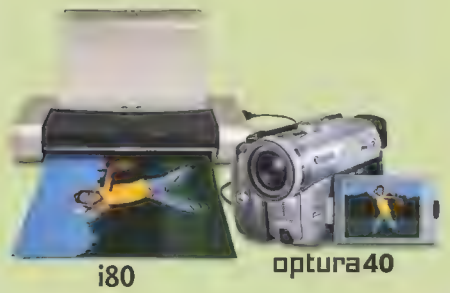

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Great Finds

Celebrating a magazine's good fortune—and a nation's

BY CAREY WINFREY

SINCE THE MAGAZINE was founded nearly 35 years ago, science and natural history have been among the most critical ingredients in SMITHSONIAN's unique mix. For some 29 years, the much-loved Jack Wiley, who retired in 2001 and died last February at age 67, led our coverage in these areas. We sought in his successor someone who combined deep knowledge of science and the natural world and the skill to communicate with our voraciously curious, always demanding, and occasionally persnickety readers. That search led, perhaps inevitably, to Laura Helmuth. Laura has a doctorate in cognitive neuroscience from the University of California at Berkeley, and is a graduate of the science writing program at the University of California at Santa Cruz. She worked, among other places, at *Science News*, before joining the staff of *Science*, where she found herself editing for the weekly journal's news department. She came to us in April. "Sometimes science can be intimidating," she says, "but if it's explained well, readers can share the thrill that comes from a new discovery or idea." We think her article about the amazing accomplishments of the Hubble space telescope ("Hubble's Last Hurrahs?" p. 66), whose fate is very much up in the air, makes her point. It also offers persuasive evidence of our wisdom (if you'll forgive the boast) and our good fortune, in hiring her.

Helmuth: Sharing the thrill with readers.

WE'RE ALSO PLEASED to have found historian John Ferling, professor emeritus of history at the State University of West Georgia. In "The Rocky Road to Revolution," p. 96, Ferling reminds us of the contentious debates of 1776 that finally led the Second Continental Congress to declare independence from England. The historic vote was taken on that fateful July 2, 1776. "That's right," says Ferling. "July *2nd!* I like to grill outside or picnic on July 2nd. I feel that I am remembering the proper day, and it also enables me to celebrate twice—on the real independence day and two days later on the contrived holiday." So how did July 4 come to be the official holiday? Pure accident. In 1777, no one in Congress, busy prosecuting a war, gave much thought to the July 2 anniversary until it was at hand. "Given such short notice, it was obvious that not much of a celebration was possible," says Ferling. Only by buying 48 hours, could they do the thing justice. "As the sky darkened on July 4, 1777, and a band composed of Hessian prisoners of war provided music," Ferling goes on, "13 rockets were fired into the sky above Philadelphia." And the fourth of July—which was, after all, the day Congress adopted the Declaration—became Independence Day.

Ferling: "July *2nd!*"

BRIAN NOYES; CAROL FERLING

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"All Music Is Folk Music"

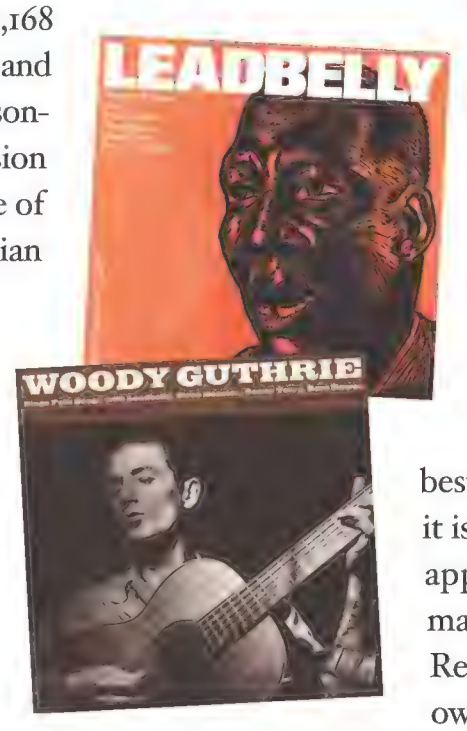
Smithsonian Folkways Recordings
may soon be coming to a computer near you

IN 1948, MOSES ASCH founded Folkways Records in New York City, and for the next four decades, till his death in 1986, he and his legendary label introduced the listening public to an unprecedented expanse of musical sounds and oral traditions from cultures throughout the world. The catalog featured American artists and genres (think bluegrass and blues, cowboy songs and cowboy poetry, mountain ballads and plains music, Lead Belly, Pete Seeger, Woody Guthrie, Ella Jenkins), along with an extraordinary gathering of artists and genres from Africa, Asia, Latin America, the Caribbean and Europe. In 1987, the Smithsonian acquired the 2,168 recordings of Folkways Records from the Asch family, and the collection became the basis of a new label, Smithsonian Folkways Recordings. The label sustains Asch's vision of the ideal recording studio as more or less the size of Earth itself. (For more information about Smithsonian Folkways Recordings, visit www.folkways.si.edu.)

Smithsonian Folkways has produced new recordings, acquired others from sources here and abroad, and assembled fresh compilations of archival materials. As a result, the collection has grown to some 3,000 albums, containing 33,000 individual tracks. The recordings need to be tended and preserved, and in that sense they're as bound by physical constraints as any other collection of museum artifacts. But what matters most about them—their contents—escapes the limitations that normally require artifacts to be kept guarded on-site. Each of the 33,000 tracks can be its own traveling exhibition and make its way anywhere in the world.

The entire collection is always available, either on ready-made CDs or on discs and cassette tapes that Smithsonian Folkways Recordings will produce on demand. Some 20,000 such custom-made recordings were sold in 2003, in addition to 230,000 CDs of items in the catalog. And along with every purchase comes the documentation that explains not just the sounds but their circumstances—their who, what, when and why. You listen against the history of a genre or an instrument or an artist, enter a realm of sound and settle in, till what at first may be foreign in time becomes familiar.

Later this year, our Center for Folklife and Cultural Heritage will launch Smithsonian Global Sound, a digital download site. At computer keyboards around the world, users will be able to call up tens of thousands of tracks—from the Folkways archive and from archives in India, South Africa and Central Asia—and search the collections by musical genre, instrument, geographic area and culture. And again, in accordance with the educational role of Smithsonian Folkways Recordings, they'll be able to download not just the music but the documentation (text and photographs) that completes the experience of the music.



The collection features Lead Belly's blues and Woody Guthrie's iconic folk songs.

Louis Armstrong once observed that "all music is folk music; I ain't never heard no horse sing a song," which is as good a way as any of saying that making music is a human activity. Music is sometimes said to be a universal language, but that's a sentiment in need of qualification. In fact, it is many languages, many cultures and traditions, each with its own vocabulary, grammar and idiom, and each best heard through the ears of those to whom it is native. There's music that's immediately appealing, and music that's initially, and maybe permanently, off-putting. Folkways Recordings offers audiences access to their own musical heritage, even as it also encourages them to hear the rest of the world as others hear it. The mission of the label is to give anyone the ears and the sensibility of a native. That sober declaration of purpose acknowledges the depth and variety of the Folkways collection, but it doesn't do justice to something no less important: the great good time that's to be had by exploring what is, in effect, a universal museum of sound. The pleasure to be found there is as generous as Satchmo's famous smile.

Lawrence M. Small
SECRETARY OF THE SMITHSONIAN INSTITUTION

JEFF TINSLEY / SMITHSONIAN INSTITUTION; SMITHSONIAN FOLKWAYS RECORDINGS (2)

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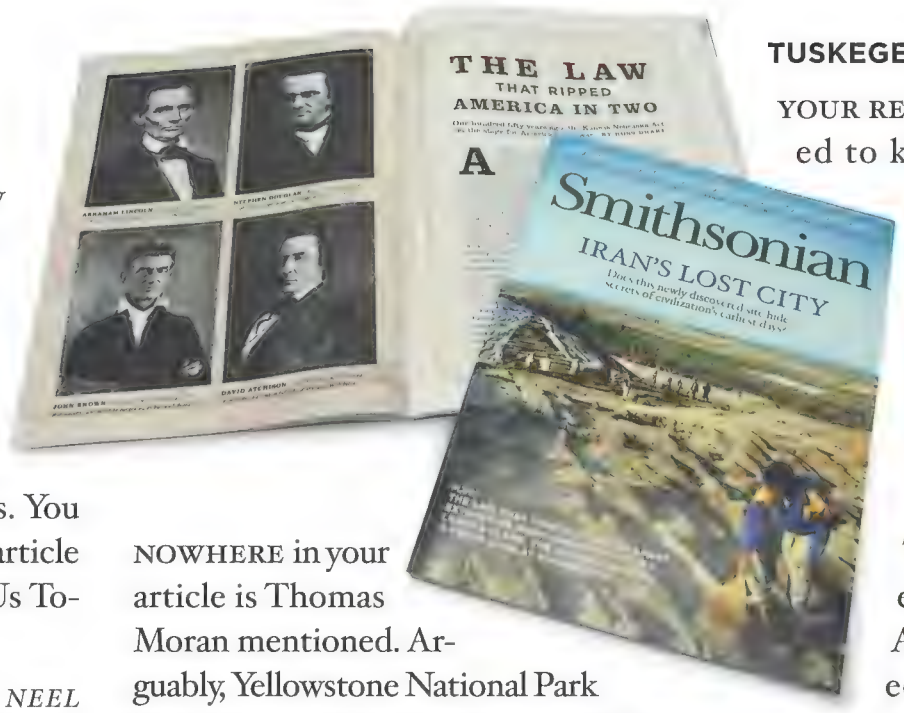
LETTERS

Readers respond to the May issue:



GALVANIZING LAW

I TAKE ISSUE with "The Law that Ripped America in Two." Yes, the Kansas-Nebraska Act of 1854 increased the likelihood of civil war. However, it was only one of many developments that helped to move us away from being a nation of slaves and slave owners. You could just as well have titled the article "The Law That Helped Bring Us Together." The process continues.

JOHN H. NEEL
ATLANTA, GEORGIA

DIGGING IT

ANDREW LAWLER'S article "Rocking the Cradle" was fascinating. I consider Iranian archaeologist Youssef Madjidzadeh and his colleague Akram Gholami heroes for their efforts excavating their site of a mysterious culture near Jiroft in southeastern Iran. To possibly discover a literate Bronze Age society is amazing. Could it be older than Mesopotamia? Who knows, but even if this society isn't that old, it's still a significant find.

PAUL DALE ROBERTS
ELK GROVE, CALIFORNIA

UNSUNG HEROES

"YELLOWSTONE: In the Beginning" omitted mention of the crucial role played by a photographer in helping to create the park. The Hayden Survey of 1871 included William Henry Jackson, who documented the expedition using the cumbersome wet plate photography method and a portable "darkroom" hauled by a pack mule. Before Jackson's photographs captured the wonders of Yellowstone, the accounts of trappers and explorers to the area were considered wild exaggerations. Jackson's pictures were distributed to members of Congress and helped secure the vote in favor of Yellowstone National Park.

A. L. DIEHL
OAKHURST, CALIFORNIA

NOWHERE in your article is Thomas Moran mentioned. Arguably, Yellowstone National Park would not exist if he had not gone there in 1871 and made sketches and paintings of the area. (One of Moran's famous paintings, *The Grand Canyon of the Yellowstone,* used to hang in the United States Capitol.) "Yellowstone" Moran (as he promoted himself) was a marvelous painter, and we in Tulsa are proud that our Gilcrease Museum houses 1,200 of his field sketches and other works of art.

BILL SITLER
TULSA, OKLAHOMA

As it happens, the photographer William Henry Jackson and the painter Thomas Moran both accompanied the 1871 Hayden Survey of Wyoming and neighboring territories. And their depictions of the Yellowstone area's astonishing natural beauty were indeed pivotal in convincing Congress to create America's first national park.—Ed.

STATE OF BEING

IN "THE (SCIENTIFIC) Pursuit of Happiness," Chip Brown writes as though he and his peers are unhappy and they wish to acquire happiness. But it's not something you possess. Happiness is an attitude, a state of being. To try to find it by pursuing a scientific formula or a charismatic person such as the Dalai Lama is to completely miss the point.

ALLAN "BUCK" FIELDS
BOSCOBEL, WISCONSIN

TUSKEGEE AIRMEN

YOUR READERS MIGHT be interested to know that as part of the National Park Service's development of the Tuskegee Airmen National Historical Site ("On Clipped Wings") we are conducting interviews with many men and women connected to the Tuskegee Airmen experience. To date, the Tuskegee Airmen Oral History Project has recorded over 750 interviews with pilots, mechanics, secretaries, parachute packers and others. These recordings will make it possible for visitors to learn about this important story directly from the airmen and others involved, and will be made available to the public at the site's research center. I encourage anyone who knows of a Tuskegee military or civilian veteran whom we could interview to e-mail me at todd_moye@nps.gov or call toll-free the National Park Service Southeast Regional Office at (866) 294-2914.

TODD MOYE
DIRECTOR, TUSKEGEE AIRMEN ORAL HISTORY PROJECT
NATIONAL PARK SERVICE
ATLANTA, GEORGIA

IT WAS NOT a German battleship that one of the Tuskegee airmen sank with only .50-caliber machine-gun fire from his P-47, as the article stated. It was a destroyer. That feat is astounding enough; as far as I know, no other pilot ever sank a destroyer using only machine-gun fire.

AL BERGER
NEW YORK, NEW YORK

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Important information: CRESTOR is prescribed along with diet for lowering cholesterol and is not for everyone, including people with liver disease, and women who are nursing, pregnant or may become pregnant. Tell your doctor promptly if you experience unexplained muscle pain or weakness, as they may be a sign of serious side effects. Be sure to tell your doctor about other medications you are taking. Simple blood tests are needed to check for liver problems before and 12 weeks after start of therapy or change of dose, and periodically thereafter. Side effects occur infrequently and include muscle aches, constipation, weakness, abdominal pain and nausea. They are usually mild and tend to go away. CRESTOR has not been shown to prevent heart disease or heart attacks. See adjacent page for additional important information.

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This advertisement does not take the place of careful discussions with your doctor. Only your doctor has the training to weigh the risks and benefits of a prescription drug.

BRIEF SUMMARY: For full Prescribing Information, see package insert.

INDICATIONS AND USAGE CRESTOR is indicated: 1. as an adjunct to diet to reduce elevated total-C, LDL-C, ApoB, nonHDL-C, and TG levels and to increase HDL-C in patients with primary hypercholesterolemia (heterozygous familial and nonfamilial) and mixed dyslipidemia (Fredrickson Type IIa and IIb); 2. as an adjunct to diet for the treatment of patients with elevated serum TG levels (Fredrickson Type IV); 3. to reduce LDL-C, total-C, and ApoB in patients with homozygous familial hypercholesterolemia as an adjunct to other lipid-lowering treatments (e.g., LDL apheresis) or if such treatments are unavailable.

CONTRAINDICATIONS CRESTOR is contraindicated in patients with a known hypersensitivity to any component of this product. Rosuvastatin is contraindicated in patients with active liver disease or with unexplained persistent elevations of serum transaminases (see WARNINGS, Liver Enzymes). **Pregnancy and Lactation** Atherosclerosis is a chronic process and discontinuation of lipid-lowering drugs during pregnancy should have little impact on the outcome of long-term therapy of primary hypercholesterolemia. Cholesterol and other products of cholesterol biosynthesis are essential components for fetal development (including synthesis of steroids and cell membranes). Since HMG-CoA reductase inhibitors decrease cholesterol synthesis and possibly the synthesis of other biologically active substances derived from cholesterol, they may cause fetal harm when administered to pregnant women. Therefore, HMG-CoA reductase inhibitors are contraindicated during pregnancy and in nursing mothers. ROSUVASTATIN SHOULD BE ADMINISTERED TO WOMEN OF CHILDBEARING AGE ONLY WHEN SUCH PATIENTS ARE HIGHLY UNLIKELY TO CONCEIVE AND HAVE BEEN INFORMED OF THE POTENTIAL HAZARDS. If the patient becomes pregnant while taking this drug, therapy should be discontinued immediately and the patient apprised of the potential hazard to the fetus. **WARNINGS Liver Enzymes** HMG-CoA reductase inhibitors, like some other lipid-lowering therapies, have been associated with biochemical abnormalities of liver function. The incidence of persistent elevations (>3 times the upper limit of normal [ULN] occurring on 2 or more consecutive occasions) in serum transaminases in fixed dose studies was 0.4, 0, 0, and 0.1% in patients who received rosuvastatin 5, 10, 20, and 40 mg, respectively. In most cases, the elevations were transient and resolved or improved on continued therapy or after a brief interruption in therapy. There were two cases of jaundice, for which a relationship to rosuvastatin therapy could not be determined, which resolved after discontinuation of therapy. There were no cases of liver failure or irreversible liver disease in these trials. **It is recommended that liver function tests be performed before and at 12 weeks following both the initiation of therapy and any elevation of dose, and periodically (e.g., semiannually) thereafter.** Liver enzyme changes generally occur in the first 3 months of treatment with rosuvastatin. Patients who develop increased transaminase levels should be monitored until the abnormalities have resolved. Should an increase in ALT or AST of >3 times ULN persist, reduction of dose or withdrawal of rosuvastatin is recommended. Rosuvastatin should be used with caution in patients who consume substantial quantities of alcohol and/or have a history of liver disease (see CLINICAL PHARMACOLOGY, Special Populations, Hepatic Insufficiency). Active liver disease or unexplained persistent transaminase elevations are contraindications to the use of rosuvastatin (see CONTRAINDICATIONS). **Myopathy/Rhabdomyolysis Rare cases of rhabdomyolysis with acute renal failure secondary to myoglobinuria have been reported with rosuvastatin and with other drugs in this class.** Uncomplicated myalgia has been reported in rosuvastatin-treated patients (see ADVERSE REACTIONS). Creatine kinase (CK) elevations (>10 times upper limit of normal) occurred in 0.2% to 0.4% of patients taking rosuvastatin at doses of up to 40 mg in clinical studies. Treatment-related myopathy defined as muscle aches or muscle weakness in conjunction with increases in CK values >10 times upper limit of normal, was reported in up to 0.1% of patients taking rosuvastatin doses of up to 40 mg in clinical studies. Rare cases of rhabdomyolysis were seen with higher than recommended doses (80 mg) of rosuvastatin in clinical trials. Factors that may predispose patients to myopathy with HMG-CoA reductase inhibitors include advanced age (>65 years), hypothyroidism, and renal insufficiency. The incidence of myopathy increased at doses of rosuvastatin above the recommended dosage range. Consequently: 1. Rosuvastatin should be prescribed with caution in patients with predisposing factors for myopathy, such as, renal impairment (see DOSAGE AND ADMINISTRATION), advanced age, and hypothyroidism. 2. Patients should be advised to promptly report unexplained muscle pain, tenderness, or weakness, particularly if accompanied by malaise or fever. Rosuvastatin therapy should be discontinued if markedly elevated CK levels occur or myopathy is diagnosed or suspected. 3. The risk of myopathy during treatment with rosuvastatin may be increased with concurrent administration of other lipid-lowering therapies or cyclosporine, (see CLINICAL PHARMACOLOGY, Drug Interactions, PRECAUTIONS, Drug Interactions, and DOSAGE AND ADMINISTRATION). **The benefit of further alterations in lipid levels by the combined use of rosuvastatin with fibrates or niacin should be carefully weighed against the potential risks of this combination. Combination therapy with rosuvastatin and gemfibrozil should generally be avoided. (See DOSAGE AND ADMINISTRATION and PRECAUTIONS, Drug Interactions).** 4. **The risk of myopathy during treatment with rosuvastatin may be increased in circumstances which increase rosuvastatin drug levels (see CLINICAL PHARMACOLOGY, Special Populations, Race and Renal Insufficiency, and PRECAUTIONS, General).** 5. **Rosuvastatin therapy should also be temporarily withheld in any patient with an acute, serious condition suggestive of myopathy or predisposing to the development of renal failure secondary to rhabdomyolysis (e.g., sepsis, hypotension, major surgery, trauma, severe metabolic, endocrine, and electrolyte disorders, or uncontrolled seizures).** **PRECAUTIONS General** Before instituting therapy with rosuvastatin, an attempt should be made to control hypercholesterolemia with appropriate diet and exercise, weight reduction in obese patients, and treatment of underlying medical problems (see INDICATIONS AND USAGE). Administration of rosuvastatin 20 mg to patients with severe renal impairment (CL_{cr} <30 mL/min/1.73 m²) resulted in a 3-fold increase in plasma concentrations of rosuvastatin compared with healthy volunteers (see WARNINGS, Myopathy/Rhabdomyolysis and DOSAGE AND ADMINISTRATION). Pharmacokinetic studies show an approximate 2-fold elevation in median exposure in Japanese subjects residing in Japan and in Chinese subjects residing in Singapore compared with Caucasians residing in North America and Europe. The contribution of environmental and genetic factors to the difference observed has not been determined. However, these increases should be considered when making rosuvastatin dosing decisions for patients of Japanese and Chinese ancestry. (See WARNINGS, Myopathy/ Rhabdomyolysis; CLINICAL PHARMACOLOGY, Special Populations, Race.) **Information for Patients** Patients should be advised to report promptly unexplained muscle pain, tenderness, or weakness, particularly if accompanied by malaise or fever. When taking rosuvastatin with an aluminum and magnesium hydroxide combination antacid, the antacid should be taken at least 2 hours after rosuvastatin administration (see CLINICAL PHARMACOLOGY, Drug Interactions). **Laboratory Tests** In the rosuvastatin clinical trial program, dipstick-positive proteinuria and microscopic hematuria were observed among rosuvastatin-treated patients, predominantly in patients dosed above the recommended dose range (i.e., 80 mg). However this finding was more frequent in patients taking rosuvastatin 40 mg, when compared to lower doses of rosuvastatin or comparator statins, though it was generally transient and was not associated with worsening renal function. Although the clinical significance of this finding is unknown, a dose reduction should be considered for patients on rosuvastatin 40 mg therapy with unexplained persistent proteinuria during routine urinalysis testing. **Drug Interactions Cyclosporine:** When rosuvastatin 10 mg was coadministered with cyclosporine in cardiac transplant patients, rosuvastatin mean C_{max} and mean AUC were increased 11-fold and 7-fold, respectively, compared with healthy volunteers. These increases are considered to be clinically significant and require special consideration in the dosing of rosuvastatin to patients taking concomitant cyclosporine (see WARNINGS, Myopathy/Rhabdomyolysis, and DOSAGE AND ADMINISTRATION). **Warfarin:** Coadministration of rosuvastatin to patients on stable warfarin therapy resulted in clinically significant rises in INR (>4, baseline 2-3). In patients taking coumarin anti-coagulants and rosuvastatin concomitantly, INR should be determined before starting rosuvastatin and frequently enough during early therapy to ensure that no significant alteration of INR occurs. Once a stable INR time has been documented, INR can be monitored at the intervals usually recommended for patients on coumarin anticoagulants. If the dose of rosuvastatin is changed, the same procedure should be repeated. Rosuvastatin therapy has not been associated with bleeding or with changes in INR in patients not taking anti-coagulants. **Gemfibrozil:** Coadministration of a single rosuvastatin dose to healthy volunteers on gemfibrozil (600 mg twice daily) resulted in a 2.2- and 1.9-fold, respectively, increase in mean C_{max} and mean AUC of rosuvastatin (see DOSAGE AND ADMINISTRATION). **Endocrine Function** Although clinical studies have shown that rosuvastatin alone does not reduce basal plasma cortisol concentration or impair adrenal reserve, caution should be exercised if any HMG-CoA reductase inhibitor or other agent used to lower cholesterol levels is administered concomitantly with drugs that may decrease the levels or activity of endogenous steroid hormones such as ketoconazole, spironolactone, and cimetidine. **CNS Toxicity** CNS vascular lesions, characterized by perivascular hemorrhages, edema, and mononuclear cell infiltration of perivascular spaces, have been observed in dogs treated with several other members of this drug class. A chemically similar drug in this class produced dose-dependent optic nerve degeneration (Wallerian degeneration of retinogeniculate fibers) in dogs, at a dose that produced plasma drug levels about 30 times higher than the mean drug level in humans taking the highest recommended dose. Edema, hemorrhage, and partial necrosis in the interstitium of the choroid plexus was observed in a female dog sacrificed moribund at day 24 at 90 mg/kg/day by oral gavage (systemic exposures 100 times the human exposure at 40 mg/day based on AUC comparisons). Corneal opacity was seen in dogs treated for 52 weeks at 6 mg/kg/day by oral gavage (systemic exposures 20 times the human exposure at 40 mg/day based on AUC comparisons). Cataracts were seen in dogs treated for 12 weeks by oral gavage at 30 mg/kg/day (systemic exposures 60 times the human exposure at 40 mg/day based on AUC comparisons). Retinal dysplasia and retinal loss were seen in dogs treated for 4 weeks by oral gavage at 90 mg/kg/day (systemic exposures 100 times the human exposure at 40 mg/day based on AUC). Doses ≤30 mg/kg/day (systemic exposures ≤60 times the human exposure at 40 mg/day based on AUC comparisons) following treatment up to one year, did not reveal retinal findings. **Carcinogenesis, Mutagenesis, Impairment of Fertility** In a 104-week carcinogenicity study in rats at dose levels of 2, 20, 60, or 80 mg/kg/day by oral gavage, the incidence of uterine stromal polyps was significantly increased in females at 80 mg/kg/day at systemic exposure 20 times the human exposure at 40 mg/day based on AUC. Increased incidence of polyps was not seen at lower doses. In a 107-week carcinogenicity study in mice given 10, 60, 200 mg/kg/day by oral gavage, an increased incidence of hepatocellular adenoma/carcinoma was observed at 200 mg/kg/day at systemic exposures 20 times human exposure at 40 mg/day based on AUC. An increased incidence of hepatocellular tumors was not seen at lower doses. Rosuvastatin was not mutagenic or clastogenic with or without metabolic activation in the Ames test with *Salmonella typhimurium* and *Escherichia coli*, the mouse lymphoma assay, and the chromosomal aberration assay in Chinese hamster lung cells. Rosuvastatin was negative in the *in vivo* mouse micronucleus test. In rat fertility studies with oral gavage doses of 5, 15, 50 mg/kg/day, males were treated for 9 weeks prior to and throughout mating and females were treated 2 weeks prior to mating and throughout mating until gestation day 7. No adverse effect on fertility was observed at 50 mg/kg/day (systemic exposures up to 10 times human exposure at 40 mg/day based on AUC comparisons). In testicles of dogs treated with rosuvastatin at 30 mg/kg/day for one month, spermatid giant cells were seen. Spermatid giant cells were observed in monkeys after 6-month treatment at 30 mg/kg/day in addition to vacuolation of seminiferous tubular epithelium. Exposures in the dog were 20 times and in the monkey 10 times human exposure at 40 mg/day based on body surface area comparisons. Similar findings have been seen with other drugs in this class. **Pregnancy** ***Pregnancy Category X*** See CONTRAINDICATIONS. Rosuvastatin may cause fetal harm when administered to a pregnant woman. Rosuvastatin is contraindicated in women who are or may become pregnant. Safety in pregnant women has not been established. There are no adequate and well-controlled studies of rosuvastatin in pregnant women. Rosuvastatin crosses the placenta and is found in fetal tissue and amniotic fluid at 3% and 20%, respectively, of the maternal plasma concentration following a single 25 mg/kg oral gavage dose on gestation day 16 in rats. A higher fetal tissue distribution (25% maternal plasma concentration) was observed in rabbits after a single oral gavage dose of 1 mg/kg on gestation day 18. If this drug is administered to a woman with reproductive potential, the patient should be apprised of the potential hazard to a fetus. In female rats given oral gavage doses of 5, 15, 50 mg/kg/day rosuvastatin before mating and continuing through day 7 postcoitus results in decreased fetal body weight (female pups) and delayed ossification at the high dose (systemic exposures 10 times human exposure at 40 mg/day based on AUC comparisons). In pregnant rats given oral gavage doses of 2, 20, 50 mg/kg/day from gestation day 7 through lactation day 21 (weaning), decreased pup survival occurred in groups given 50 mg/kg/day, systemic exposures ≥12 times human exposure at 40 mg/day based on body surface area comparisons. In pregnant rabbits given oral gavage doses of 0.3, 1, 3 mg/kg/day from gestation day 6 to lactation day 18 (weaning), exposures equivalent to human exposure at 40 mg/day based on body surface area comparisons, decreased fetal viability and maternal mortality was observed. Rosuvastatin was not teratogenic in rats at ≤25 mg/kg/day or in rabbits ≤3 mg/kg/day (systemic exposures equivalent to human exposure at 40 mg/day based on AUC or body surface comparison, respectively). **Nursing Mothers** It is not known whether rosuvastatin is excreted in human milk. Studies in lactating rats have demonstrated that rosuvastatin is secreted into breast milk at levels 3 times higher than that obtained in the plasma following oral gavage dosing. Because many drugs are excreted in human milk and because of the potential for serious adverse reactions in nursing infants from rosuvastatin, a decision should be made whether to discontinue nursing or administration of rosuvastatin taking into account the importance of the drug to the lactating woman. **Pediatric Use** The safety and effectiveness in pediatric patients have not been established. Treatment experience with rosuvastatin in a pediatric population is limited to 8 patients with homozygous FH. None of these patients was below 8 years of age. **Geriatric Use** Of the 10,275 patients in clinical studies with rosuvastatin, 3,159 (31%) were 65 years and older, and 698 (6.8%) were 75 years and older. The overall frequency of adverse events and types of adverse events were similar in patients above and below 65 years of age. (See WARNINGS, Myopathy/Rhabdomyolysis.) The efficacy of rosuvastatin in the geriatric population (≥65 years of age) was comparable to the efficacy observed in the non-elderly. **ADVERSE REACTIONS** Rosuvastatin is generally well tolerated. Adverse reactions have usually been mild and transient. In clinical studies of 10,275 patients, 3.7% were discontinued due to adverse experiences attributable to rosuvastatin. The most frequent adverse events thought to be related to rosuvastatin were myalgia, constipation, asthenia, abdominal pain, and nausea. **Clinical Adverse Experiences** Adverse experiences, regardless of causality assessment, reported in ≥2% of patients in placebo-controlled clinical studies of rosuvastatin are shown in Table 1; discontinuations due to adverse events in these studies of up to 12 weeks duration occurred in 3% of patients on rosuvastatin and 5% on placebo.

Table 1. Adverse Events in Placebo-Controlled Studies

Adverse event	Rosuvastatin N=744	Placebo N=382
Pharyngitis	9.0	7.6
Headache	5.5	5.0
Diarrhea	3.4	2.9
Dyspepsia	3.4	3.1
Nausea	3.4	3.1
Myalgia	2.8	1.3
Asthenia	2.7	2.6
Back pain	2.6	2.4
FLU syndrome	2.3	1.8
Urinary tract infection	2.3	1.6
Rhinitis	2.2	2.1
Sinusitis	2.0	1.8

In addition, the following adverse events were reported, regardless of causality assessment, in ≥1% of 10,275 patients treated with rosuvastatin in clinical studies. The events in *italics* occurred in ≥2% of these patients. **Body as a Whole:** *Abdominal pain, accidental injury, chest pain, infection, pain,* pelvic pain and neck pain. **Cardiovascular System:** *Hypertension,* angina pectoris, vasodilatation, and palpitation. **Digestive System:** *Constipation, gastroenteritis,* vomiting, flatulence, periodontal abscess, and gastritis. **Endocrine:** Diabetes mellitus. **Hemic and Lymphatic System:** Anemia and ecchymosis. **Metabolic and Nutritional Disorders:** *Peripheral edema,* **Musculoskeletal System:** *Arthritis, arthralgia,* and pathological fracture. **Nervous System:** *Dizziness, insomnia, hypertonia, paresthesia, depression,* anxiety, vertigo, and neuralgia. **Respiratory System:** *Bronchitis, cough increased,* dyspnea, pneumonia, and asthma. **Skin and Appendages:** *Rash* and pruritus. **Laboratory Abnormalities:** In the rosuvastatin clinical trial program, dipstick-positive proteinuria and microscopic hematuria were observed among rosuvastatin-treated patients, predominantly in patients dosed above the recommended dose range (i.e., 80 mg). However, this finding was more frequent in patients taking rosuvastatin 40 mg, when compared to lower doses of rosuvastatin or comparator statins, though it was generally transient and was not associated with worsening renal function. (See PRECAUTIONS, Laboratory Tests.) Other abnormal laboratory values reported were elevated creatinine phosphokinase, transaminases, hyperglycemia, glutamyl transpeptidase, alkaline phosphatase, bilirubin, and thyroid function abnormalities. Other adverse events reported less frequently than 1% in the rosuvastatin clinical study program, regardless of causality assessment, included arrhythmia, hepatitis, hypersensitivity reactions (i.e., face edema, thrombocytopenia leukopenia, vesiculobullous rash, urticaria, and angioedema), kidney failure, syncope, myasthenia, myositis, pancreatitis, photosensitivity reaction, myopathy, and rhabdomyolysis. **OVERDOSAGE** There is no specific treatment in the event of overdose. In the event of overdose, the patient should be treated symptomatically and supportive measures instituted as required. Hemodialysis does not significantly enhance clearance of rosuvastatin. **DOSAGE AND ADMINISTRATION** The patient should be placed on a standard cholesterol-lowering diet before receiving CRESTOR and should continue on this diet during treatment. CRESTOR can be administered as a single dose at any time of day, with or without food. **Hypercholesterolemia (Heterozygous Familial and Nonfamilial) and Mixed Dyslipidemia (Fredrickson Type IIa and IIb)** The dose range for CRESTOR is 5 to 40 mg once daily. Therapy with CRESTOR should be individualized according to goal of therapy and response. The usual recommended starting dose of CRESTOR is 10 mg once daily. Initiation of therapy with 5 mg once daily may be considered for patients requiring less aggressive LDL-C reductions or who have predisposing factors for myopathy (see WARNINGS, Myopathy/Rhabdomyolysis). For patients with marked hypercholesterolemia (LDL-C > 190 mg/dL) and aggressive lipid targets, a 20-mg starting dose may be considered. The 40-mg dose of CRESTOR should be reserved for those patients who have not achieved goal LDL-C at 20 mg (see WARNINGS, Myopathy/ Rhabdomyolysis). After initiation and/or upon titration of CRESTOR, lipid levels should be analyzed within 2 to 4 weeks and dosage adjusted accordingly. **Homozygous Familial Hypercholesterolemia** The recommended starting dose of CRESTOR is 20 mg once daily in patients with homozygous FH. The maximum recommended daily dose is 40 mg. CRESTOR should be used in these patients as an adjunct to other lipid-lowering treatments (e.g., LDL apheresis) or if such treatments are unavailable. Response to therapy should be estimated from pre-apheresis LDL-C levels. **Dosage in Patients Taking Cyclosporine** In patients taking cyclosporine, therapy should be limited to CRESTOR 5 mg once daily (see WARNINGS, Myopathy/Rhabdomyolysis, and PRECAUTIONS, Drug Interactions). **Concomitant Lipid-Lowering Therapy** The effect of CRESTOR on LDL-C and total-C may be enhanced when used in combination with a bile acid binding resin. If CRESTOR is used in combination with gemfibrozil, the dose of CRESTOR should be limited to 10 mg once daily (see WARNINGS, Myopathy/ Rhabdomyolysis, and PRECAUTIONS, Drug Interactions). **Dosage in Patients With Renal Insufficiency** No modification of dosage is necessary for patients with mild to moderate renal insufficiency. For patients with severe renal impairment (CL_{cr} <30 mL/min/1.73 m²) not on hemodialysis, dosing of CRESTOR should be started at 5 mg once daily and not to exceed 10 mg once daily (see PRECAUTIONS, General, and CLINICAL PHARMACOLOGY, Special Populations, Renal Insufficiency).

NOTE: This summary provides important information about CRESTOR. For more information, please ask your doctor or health care professional about the full Prescribing Information and discuss it with them.

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THIS MONTH IN HISTORY

JULY ANNIVERSARIES—MOMENTOUS OR MERELY MEMORABLE

80 YEARS AGO: MURDER MOST FOUL Nathan Leopold, 19, and Richard Loeb, 19, plead guilty in July 1924 to killing a Chicago child for a thrill. In a nation-gripping trial, defense attorney Clarence Darrow rails against the death penalty. Loeb is killed in prison in 1936; Leopold, paroled, dies in 1971.

70 YEARS AGO: PUBLIC ENEMY The yearlong crime spree of bank robber, murderer and escaped convict John Dillinger ends when he is gunned down by federal Division of Investigation agents outside Chicago's Biograph Theater on July 22, 1934. The 32-year-old gangster, whose thefts total some $300,000, is so notorious that crowds dip hankies into Dillinger's spilled blood for souvenirs.

—ALISON MCLEAN

BETTMANN / CORBIS (2); NSSDC / NASA; BETTMANN / CORBIS; CORBIS; HULTON ARCHIVE / GETTY IMAGES

200 YEARS AGO: GORGEOUS GEORGE George Sand is born Amandine-Aurore-Lucile Dupin in Paris, July 1, 1804. The author of the rustic romance *La Mare au Diable* will defy social mores to become as famous for her lovers (Chopin among them) as for her 70 novels. She dies in 1876 at 72.

50 YEARS AGO: THE MAN WHO WOULD BE KING On July 5, 1954, an unknown delivery boy named Elvis Presley, 19, records his first single, "That's All Right," at Memphis, Tennessee's Sun Studio. His sound, called "too black" and "too country" by some critics, catches on, and Elvis will earn 97 gold records, more than any other artist. He dies (though some will never believe it) in 1977, at 42.

40 YEARS AGO: CRASHING SUCCESS Scientists hail the "greatest advance since Galileo" as NASA's Ranger 7 spacecraft transmits the first close-up pictures of the Moon. More than 1,000 times clearer than earthbound images, the photographs map the Moon's terrain, data critical to the success of future lunar landings. Ranger 7 intentionally collides with the Moon on July 31, 1964.

25 YEARS AGO: REGIME CHANGE Saddam Hussein, 42, seizes the office of president of Iraq on July 17, 1979. His dictatorship, marked by brutality and warfare, ends when U.S.-led forces occupy Baghdad in April 2003.

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Dazzle by the Dozen

A 1947 portrait by the renowned Irving Penn broke the fashion mold and celebrated an elegance all too rare today ~ BY OWEN EDWARDS

Penn's session with the era's leading models (including future wife Lisa Fonssagrives, sixth from the left) involved "polite jockeying," he said.

IRVING PENN / CONDÉ NAST PUBLICATIONS

IRVING PENN, now in his 80s and still hard at work, is considered one of America's greatest living photographers. He has set an unsurpassed standard for still life and portraiture and has been a powerful, creative force in fashion photography since just after World War II. Today, according to Kimberly Jones of the Pace/MacGill Gallery in New York City, certain Penn prints sell for more than $100,000.

In 1947, Penn was 30 years old and had already worked for the legendary Russian art director Alexey Brodovitch, designed advertising for Saks Fifth Avenue, spent a year painting in Mexico, helped create *Vogue* covers as an assistant to Alexander Liberman, and made photographs while serving as a wartime ambulance driver in Italy and India. One winter day in a studio in Manhattan, however, Penn faced a formidable challenge. Assembled for an unprecedented group portrait were 12 of the most famous models of the era. The mere idea of gathering this dazzling dozen in a single room may have seemed to Penn a reckless act. Each of the models was

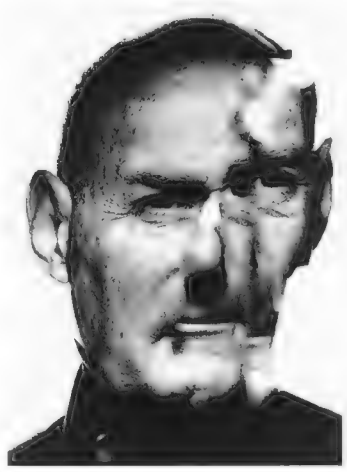
If there is a bee on a lemon, you can bet Penn put it there.

accustomed to being the focus of attention and to posing for the best-known fashion photographers of the time, Europeans like Horst P. Horst and George Hoyningen-Huene or New Yorkers such as John Rawlings. Though Penn was an up-and-coming talent, he was still a young man from Plainfield, New Jersey, so it's easy to imagine that some of the divas might have—ever so charmingly—looked down their perfect noses at him.

Penn had a powerful ally: art. From his earliest efforts with the camera, he had embraced classic traditions. In his photographs for *Vogue*, he carried on the formal values and impeccable chiaroscuro lighting of master painters as varied as Rembrandt, Tiepolo, Goya, de Chirico and Balthus. Nevertheless, given the magnetic fields of the stars in his galaxy that day, Penn's task was akin to Zeus struggling to establish order in the heavens.

Penn (below, in a 1986 self-portrait) photographed New Guinea tribesmen in 1970, part of a series on more far-flung cultural styles.

Of course, this gathering had a practical editorial purpose. As French designers like Christian Dior reinvented high fashion, and postwar Paris rose again to its position of fashion hegemony, *Vogue* waxed patriotic and dressed its most famous models in the designs of Americans, including Henri Bendel and Nettie Rosenstein. Anyone familiar with today's fashion magazines will instantly note what seems different about this picture: the models are women, not girls, and they look entirely at home in these extraordinary clothes. For instance, Lily Carlson, wearing the white gown in the center of the picture, was 32 at the time, and Lisa Fonssagrives (who would marry Penn in 1950 and remain his wife until her death in 1992), seen in profile just to the left of Carlson, was 35. John Szarkowski, now director emeritus of photography at the Museum of Modern Art in New York, later wrote that fashion then still represented "an exceptional and precious variety of art object that privileged women might wear—might *inhabit*—as a badge of their station, wealth, and taste." And to inhabit such fashion required an assurance that went beyond looks. These were individualistic women with the kind of presence that made their first-magnitude beauty secondary, even in a fashion photograph. Many of the women went on to excel in other fields. Lisa Fonssagrives became a successful sculptor represented by the Marlborough Gallery in Manhattan. Lily Carlson, who died in 2000, became a photographer herself; her work appeared in such magazines as *Life* and *Look*. And Dorian Leigh, reclining in the foreground, opened a restaurant in Paris, then returned to the States to write about food.



Penn, always very private, no longer talks about the making of this portrait. Most of the women in the picture have died, and he says thinking about that long-ago day is painful. But some years ago, he described to me the rigors of the sitting. Penn is famous for controlling every aspect of his pictures. If there is a bee on a lemon in a still life, you can be sure Penn put it there. These models, however, were lens veterans who knew how best to show off their profitable bone structure. Thus a struggle was perhaps inevitable. In what he has called "the sweetness and constancy" of the light in the skylit studio, Penn carefully adjusted a dozen poses to create a precise visual point-counterpoint, then ducked under the cloth of his large view camera. But as he studied the image in the ground glass, he saw elegant heads turning back to positions their owners knew to be flattering. Time after time, Penn came from behind the camera to set things right, until, by dint of will power or stamina, he carried the day.

The influence of great painters is clear in the result, but Penn's ironic inclusion of beat-up stepladders, a clump of scruffy carpet and a wad of crumpled wrapping paper places the picture in the modern tradition. As a complex, endlessly unfolding composition and a masterwork of lighting, *12 Beauties* is fashion iconography at its best. Like many great photographs, it captures the passionate spirit of an era. We see with undiminished clarity a time when optimism was in ascendancy, poise was power and glamour still had gravitas.

Veteran photography critic OWEN EDWARDS' *article about the quarantine facility for the Apollo 11 astronauts appears on page 20.*

IRVING PENN (2)

going out into the world (now that your kids have done the same): priceless

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Splendid Isolation

When the first astronauts to walk on the Moon returned from their July 1969 lunar expedition, they were confined to quarters ~ BY OWEN EDWARDS

[*Mobile Quarantine Facility* NASM'S STEVEN F. UDVAR-HAZY CENTER]

DANE PENLAND / NASM, SMITHSONIAN INSTITUTION; DIRCK HALSTEAD / CORBIS

IT HAS BEEN 35 YEARS since Neil Armstrong stepped onto the surface of the Moon, just before 11 p.m. E.D.T. on July 20, 1969—an astounding feat to those of us who witnessed it on the flickering screens of black-and-white televisions. These days, it is robots, faithful machines that leave the Earth, travel to other worlds and do not return, who take the giant leaps for mankind. So one must strain a bit to recall the undercurrent of fear that ran through the celebration of Apollo 11's astonishing triumph. Among other fears, scientists worried that the astronauts might return to Earth bearing unwanted passengers—deadly lunar microbes against which humans would have no defense. If this concern, in hindsight, appears quaint—like ancient mariners fretting about falling off the edge of the Earth—the prospect of catastrophic contamination was taken altogether seriously at the time.

In 1963, the National Academy of Sciences, anxious to guard against invisible invaders, called for a way to isolate the Apollo astronauts upon their return from a series of planned Moon

Nixon (greeting crew): "This is the greatest week . . . since the Creation."

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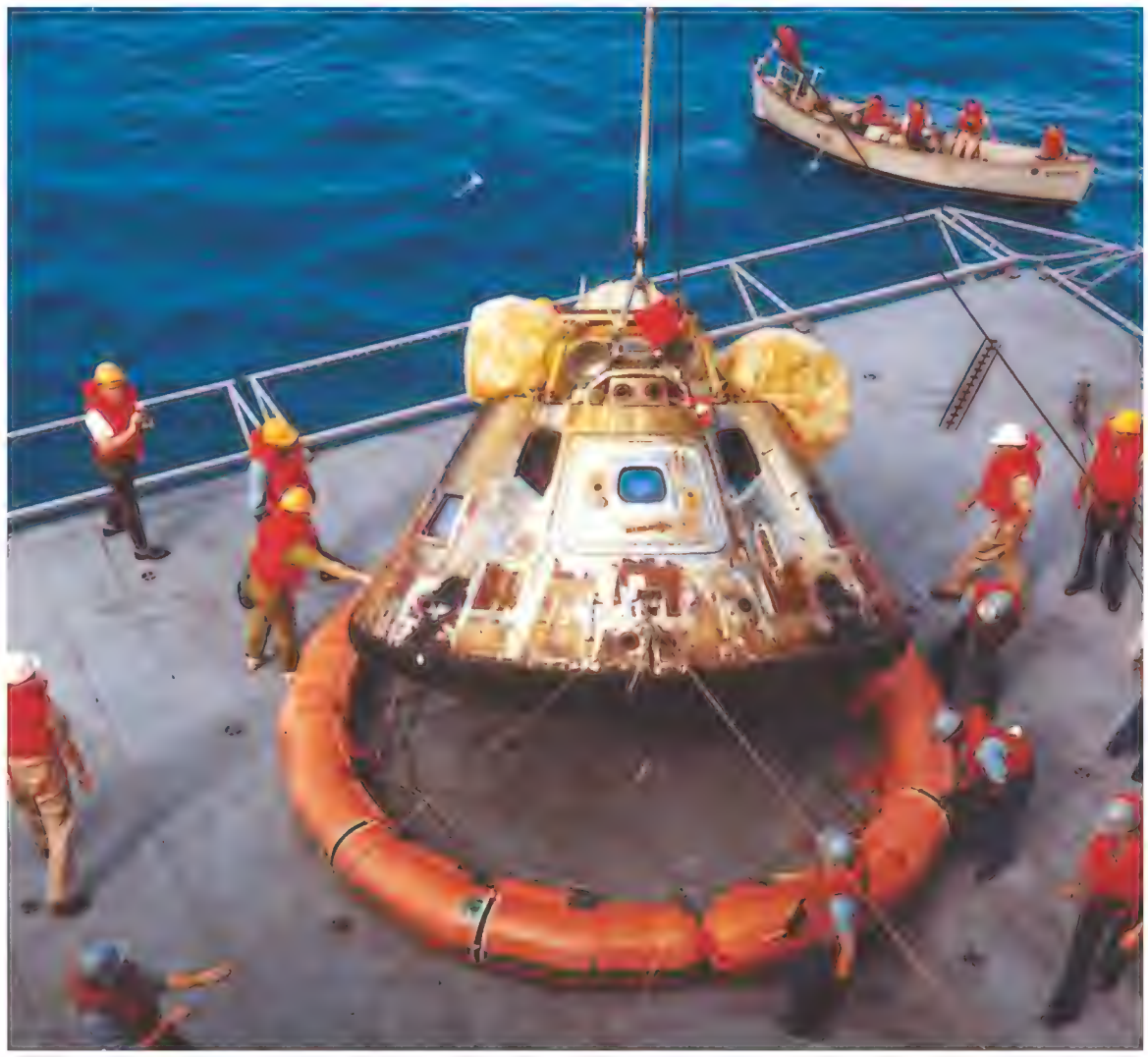
landings. Accordingly, NASA developed the Mobile Quarantine Facility (MQF), essentially a highly modified, wheelless, 35-foot vacation trailer equipped with elaborate air ventilation and filtration systems. The Airstream Company built four of them at a total cost of $250,000. Given the futuristic form of the Airstream, with its aerodynamic profile and gleaming aluminum sheathing, the choice could not have been more aesthetically congruent. "One of the units was destroyed after years of neglect," says Allan Needell, curator of the Apollo collection at the Smithsonian's National Air and Space Museum (NASM). "But the other three have survived. The facility now on display at NASM's Udvar-Hazy Center was the one used to isolate the three-man crew of Apollo 11 upon splashdown."

Plans called for Neil Armstrong, Edwin "Buzz" Aldrin and Michael Collins to be quarantined—for three weeks, under hermetically sealed conditions—from the moment they opened the hatch of their capsule, bobbing in the Pacific. America's newest heroes had to struggle into biological isolation suits tossed through the hatch after splashdown. (The gear was also donned by recovery helicopter pilot Cmdr. Don Jones and his crew.) When the three astronauts emerged from the helicopter to the cheers from the aircraft carrier USS *Hornet*, they were quickly transferred to the MQF. Recovery engineer John Hirasaki, who handled the Moon-dust cleanup, and NASA physician William Carpentier joined them in quarantine. Anxiety regarding a possible infection was heightened by the presence on the carrier of President Richard Nixon.

Once in the Airstream, the crew found quarters far more spacious than the Apollo capsule's: the quarantine trailer contained a living area, sleeping compartment and kitchen, plus airline-type seats for use when the MQF was ferried in the belly of a C-141 transport plane. The astronauts would spend 65 hours in its tightly sealed interior.



The capsule (empty of its crew, aboard the *Hornet*) had been decontaminated at sea.

In a now-famous photograph of President Nixon speaking by microphone to Armstrong, Collins and Aldrin, the astronauts peer out from the Airstream's rear window like kids wishing they could come out to play. While the trio waved and smiled at the president and the press, Hirasaki and Carpentier had the historic privilege of conversing, not to mention drinking martinis, with the returning heroes. "They were really excited," Hirasaki says. "They reminded me of a group of schoolboys who'd had an amazing adventure and couldn't wait to tell about it."

Two days after splashdown, the *Hornet* made port at Pearl Harbor; the MQF was lowered to the dock and transported by truck to Hickam Air Force Base. The three astronauts in their trailer were next shuttled by C-141 jet to Houston. There the men were greeted, again through the window, by their wives, who—perhaps by coincidence—were attired in a red dress, a white dress and a blue dress. By July 28, the MQF and its cargo of spacemen, Moon rocks and two NASA volunteers had arrived at the Johnson Space Center in Houston. The passengers then transferred to the much larger Lunar Receiving Lab for two more weeks of quarantine.

In the years to come, the other quarantine facilities would be on hand for the landing of the crews from Apollo 12 later in 1969 and Apollo 14 in 1971. (In 1970, Apollo 13's Moon landing was famously aborted after an onboard explosion.) By the time the Apollo 15 lunar landing took place in July 1971, the fear of pathogens had receded and the use of trailers was abandoned. Hirasaki, who today works in Houston as a technical support engineer on the International Space Station, says his time in the MQF had little long-term effect on him. "Some people call me a lunatic," he quips, "but that wasn't anything I caught."

Writer OWEN EDWARDS is based in San Francisco, California.

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Grass Menagerie

Preparing to trade with Indians, the Corps of Discovery engages some other denizens of the territory

One man called the Platte River, whose mouth (above) the corps reached in July 1804, "a thousand miles long and six inches deep."

Sixty-nine days into the expedition, July 21, 1804, the corps reached the mouth of the Platte River, which symbolically divided the Lower and Upper Missouri. Now the men would travel through lands little known to white traders. Along the Upper Missouri lay the plains, home to Indians with whom the expedition hoped to forge diplomatic relations. In turn, the tribes would learn about American sovereignty from expedition members. The Indians would also be told that trading with the British was now discouraged.

July 1, 1804 [Capt. William Clark]

Last night one of the Sentinals Chang'd [challenged] either a man or Beast, which run off, all prepared for action.

July 3 [Clark]

Halted to day about a mile above the Island and found a horse, which had been lost by the Indians, verry fat and jentle.

July 4 [Pvt. Patrick Gass]

We fired a swivel at sunrise in honour of the day. . . . passed a creek on the north side, which we called INDEPENDENCE, encamped on the north side . . . and saluted the departing day with another gun.

July 4 [Sgt. Charles Floyd]

A Snake Bit Jo. Fieldes on the Side of the foot which Sweled much. . . . the Last mentioned prarie I call Jo. Fieldes Snake prarie.

July 9 [Clark]

Camped at a point on the L[arboard. S[ide]. opposit the head of the Island, our party was incamped on the Opposit Side, their not answering our Signals Caused us to Suspect the persons Camped opposit to us was a war party of Soux, we fired the Bow piece to alarm the party on Shore, alled prepared to oppose if attacted.

July 12 [Capts. Lewis and Clark]

The Commanding officers. Capt. M. Lewis & W. Clark constituted themselves a Court martial for the trial of Such prisoners as are *Guilty* of *Capatol Crimes*, and under the rules and articles of *War* punishable by *Death*,

Alexander Willard was brought forward Charged with "*Lying down and Sleeping on his post whilst a Sentinal, on the night* of the 11th". . . .

To this Charge the prisoner pleads. *Guilty* of *Lying Down*, and *not Guilty, of Going to Sleep*. The Court after Duly Considering the evidence aduced, are of oppinion that the *Prisoner* Alexdn. Willard is guilty of every part of the Charge exhibited against him. it being a breach of the *rules* and articles of *War* (as well as tending to the probable distruction of the party) do *Sentence* him to receive *One hundred lashes on his bear back, at four different times in equal propation.*— and order that the punishment Commence this evening at Sunset, and Continue to be inflicted, (by the Guard) every evening untill Completed.

BRENT W. PHELPS

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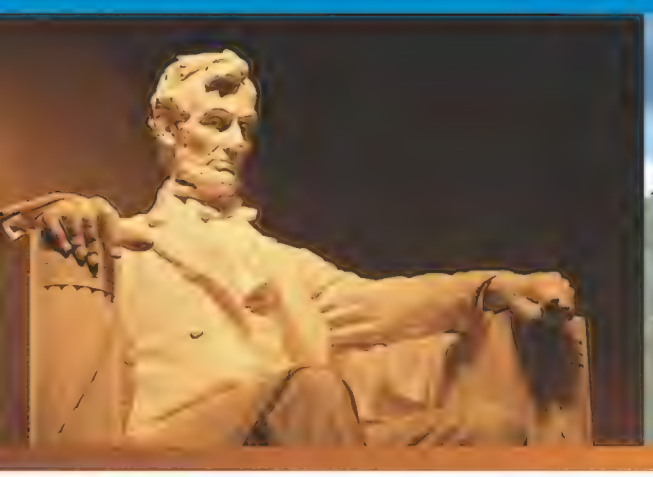

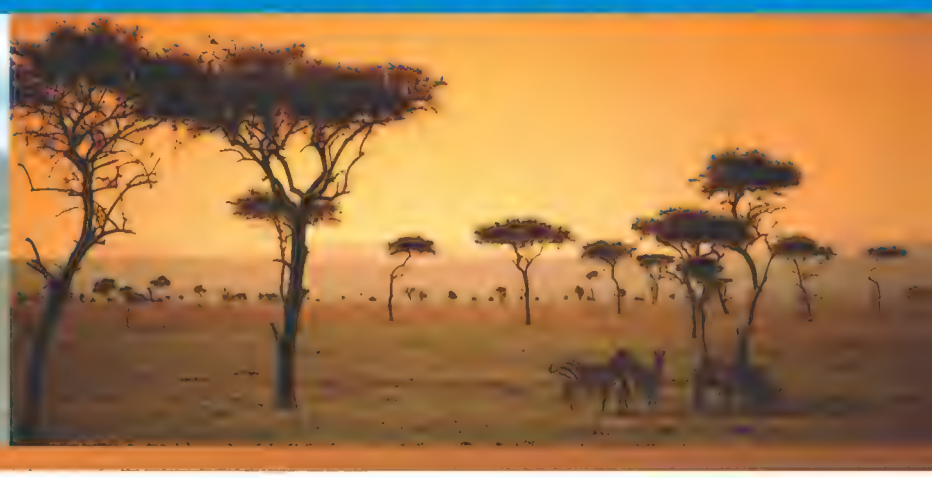

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July 18 [Clark]

Saw a Dog this evening appeared to be nearly Starved to death, he must have been left by Some party of Hunters we gave him Some meet, he would not come near.

July 19 [Clark]

I call this Island Butter Island, as at this place we mad use of the last of our butter.

July 22 [Clark]

This being a good Situation and much nearer the Otteaus town than the Mouth of the Platt, we concluded to delay at this place a fiew days and Send for Some of the Chiefs of that nation to let them Know of the Change of Government, The wishes of our Government to Cultivate friendship with them, the Objects of our journy and to present them with a flag and Some Small presents.

July 23 [Pvt. Joseph Whitehouse]

The commanding officers sent George Drewer & a frenchman named St. Peter to the Zotoe & pawne Village . . . in order to invite the Indians inhabiting those Villages, to come to our Camp, in order to hold a Council with them. We hoisted the American Colours on the bank of the River.

July 27 [Clark]

A butifull Breeze from the N W. this evening which would have been verry agreeable, had the Misquiters been tolerably Pacifick, but thy were rageing all night, Some about the Sise of house flais.

July 28 [Sgt. John Ordway]

Drewyer found three of the Zotaus Indians Dressing an *Elk*. they were friendly and Gave him a part of it and one of them came with him in order to find the Boat. Drewyer killed one Deer & joined us brought the Indian with him.

July 31 [Whitehouse]

One of our hunters caught a Young beaver, which he kept for a pet.

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A work in progress for almost 35 years, Arcosanti blends architecture and ecology to test a high-density alternative to suburban sprawl.

The Anti-Burb

Arcosanti, a struggling community in the Arizona desert, preaches the virtues of close quarters ~ BY ROBERT EARLE HOWELLS

A SCIENCE FICTION-LIKE WONDERLAND of domes and apses on a desert mesa 70 miles north of Phoenix, Arcosanti is Paolo Soleri's rejoinder to the American ideal of a house with a lawn and a two-car garage. "The single-family house is the single most consumptive and segregational habitat that we can conceive," proclaims the 85-year-old architect, who has long fought a losing battle against suburbia and what he views as its shameful squandering of land, water, energy and (if you count long commutes) time.

Since 1970, Soleri has been building his "lean alternative" to sprawl. Arcosanti (the name derives from architecture, ecology and *cosanti*, Soleri's coined Italian for anticonsumerism) is a prototype community designed to provide housing and facilities for 5,000 people on 25 acres—about 10 percent of the space that a like number of inhabitants would typically occupy in suburbia. It has no roads or garages, and all but minimal landscaping. Residents walk to the foundry, to peach and apple orchards and to greenhouses where they grow herbs and vegetables.

If the place sounds idealistic, it is not a commune or even a utopia in the usual sense. Rather, Soleri says, it's a "laboratory" for testing his theory that compact, high-density communities are necessary for our long-term survival. "The choice is clear," he says. "The single-family home, and suburbia with it, goes—or we humans go." The results from his lab so far are mixed. After three decades, Arcosanti is only 4 percent completed and has only 75 permanent residents. It may be that Americans are reluctant to give up their cars and creature comforts—in which case, according to Soleri, we're all goners. Or it could be that a shortage of funds has held back the project, as he maintains. Either way, the place is one of the nation's longest-running experiments to base a community around ecologically sensitive architecture.

Down two dusty unpaved miles off Interstate 17, Arcosanti comes into view with a tall construction crane hulking over its array of towers and domed rooftops. About ten concrete buildings, most of them interconnected, appear to spill down the mesa. Two vault-

ALL PHOTOGRAPHS: DOUGLAS MERRIAM; MAP: ELIZABETH WOLF

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SM17/04

"The single-family home, and suburbia with it, goes—or we humans go."

Paolo Soleri (top left) puts the workplace (bell foundry), the community plaza and residential space all within a short walk in Arcosanti, his vision of the American dream.

ed archways soar 80 feet above a central courtyard. A few yards away is an amphitheater. A minute-long walk ends at an open-air foundry and workshop (for making ceramic and bronze bells designed by Soleri and sold in the visitors' center and in gift shops). A few grass islands, none more than about 100 square feet, and a scattering of Italian cypresses and olive trees soften and shade the concrete compound.

Most residents get lodging and access to community facilities in exchange for working on the site and paying a fee of $110 a month. They tend to be single and in their 20s, but some have been with the project almost from the beginning. Arcosanti's only child was born there seven years ago.

Uzair Quraishi, a 23-year-old architecture student from Karachi, Pakistan, on a four-month internship at Arcosanti, says he was predisposed to favor Soleri's approach to high-density living: "I come from a city where houses are connected to each other, people interact, so I feel comfortable here." In adhering to the philosophy of minimizing waste, all the buildings in this "arcology," as Soleri calls it (combining architecture and ecology), serve multiple purposes. The five-story building we are standing in contains a café, an art gallery and a bakery as well as apartments. Some are concrete cubicles with a common kitchen, but there are also five-bedroom apartments.

Orchards and fields of garlic and blue corn fan out along the cottonwood-lined Agua Fria River. The produce is sold in the café. Residents also barter with nearby Hopi communities, but they get the bulk of their provisions from a supermarket eight miles away.

Conserving energy is a priority. A tunnel system is in place to channel solar-heated air from a ten-acre greenhouse (not yet built) to the entire complex. To combat the summer heat, small ponds outside building entrances provide evaporative cooling to interiors. Even so, a few apartments run air conditioners on hot afternoons. A fraction of Arcosanti's electric power is generated by solar panels and a windmill, but most comes from the electrical grid.

Soleri, as it happens, doesn't live in his laboratory. He lives 75 miles away in Scottsdale, in a two-bedroom ranch house he bought in 1956. He has since added several buildings to his five-acre property, including a bell foundry, student housing and a gallery. He goes to Arcosanti once a week to check things out and answer questions from visitors and students, many from other nations. Born and educated in Italy, he came to the United States in 1947 and apprenticed with Frank Lloyd Wright. Soleri first earned acclaim in 1948 for a bridge design exhibited at the Museum of Modern Art in New York City. In the 1960s, he bought 860 acres in Arizona to test his virtue-in-density ideas. On the day we met at Arcosanti, the wiry and bright-eyed octogenarian wore rumpled khakis and flip-flops and scrambled like a fireman up a ladder to his loft. His voice is soft, and his statements, like his prose, can be dense. He compares Arcosanti to an instrument: "I say to my friends that I have invented the piano so that you could perform your music." He then admits with a smile that people are beginning to wonder when the instrument will be played. "We cannot afford to build it," he says. Proceeds from selling bells and books by and about Soleri don't cover Arcosanti's million-dollar annual budget.

But a lack of money may not be the only thing keeping Arcosanti from booming. It could simply be that a lot of people prefer the trappings of suburban life. "I admire Soleri's emphasis on true urbanism of a responsible and frugal sort, his caring about the land," says David Arnold, an architectural historian at the University of New Hampshire. "But I think most Americans prefer a more generous, spreading, privacy-oriented version of urban living."

For now, Soleri seems content to challenge architects (as well as the rest of us) to do more with less, to preserve nature and conserve resources in the bargain. Architect David Tollas is an 18-year Arcosanti resident. "Who knows if arcologies will be built all over the place," he says. "But I feel privileged to work on it."

ROBERT EARLE HOWELLS wrote about the World Series of Birding in the April issue.

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Yellowstone Grumbles

Pent-up water and steam threaten to burst through the park's surface. (And we're not talking Old Faithful here) ~ BY KEVIN KRAJICK

YELLOWSTONE NATIONAL PARK is a land of many perils. Occasionally, one of the three million yearly visitors strolls up to a 2,000-pound bison and is gored. Others eat poisonous plants, snowmobile on avalanche-prone slopes, or plunge off a cliff on that last step backward to frame the perfect photograph. And at Yellowstone's 10,000 volcanically driven hot springs, geysers, bubbling mud pots and fumaroles—earth's largest concentration of hydrothermal features—about two dozen people have been boiled alive after falling or jumping in.

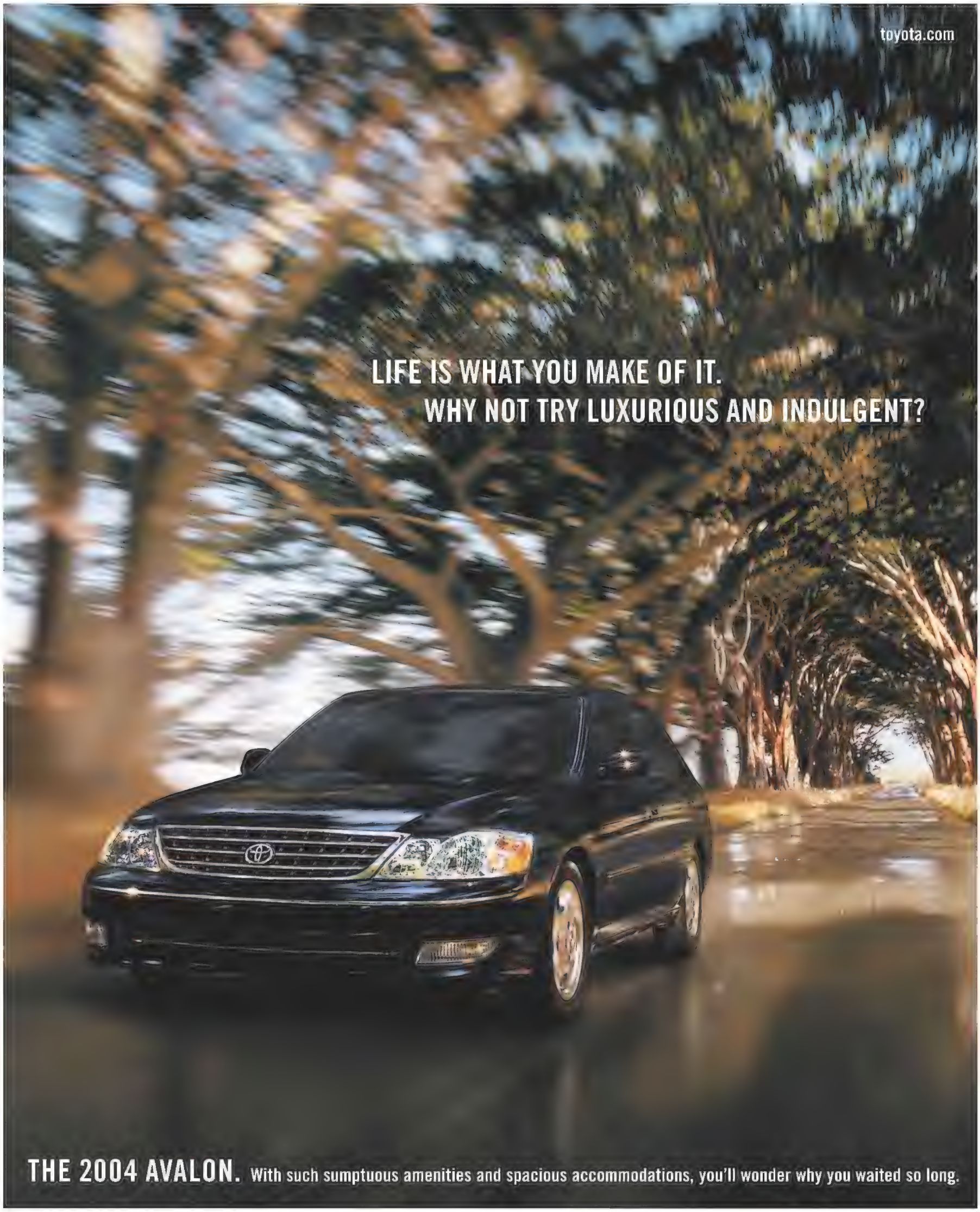
"People do a lot of crazy things," says Lisa Morgan, a volcanologist with the U.S. Geological Survey (USGS) who conducts research in the park for a few weeks every summer. She is trying to protect the sandal-clad innocents not from these mishaps, however, but from the ultimate "thermal accident": hydrothermal explosions. They can happen when magma-heated water and steam build up in underground pockets. This pressure causes parts of the landscape to rise and fall like merry-go-round horses. Usually they settle back down again harmlessly. But now and then, things blow up.

One of Morgan's best guesses for the next big blowout—maybe the biggest in 3,000 years—is a 2,100-foot-wide, 100-foot-high swelling on the bed of Yellowstone Lake. No one has observed any of the park's ground movements long enough to say which ones signal danger, but she says the lake bed could conceivably burst open. If so, lakeside picnickers could see a tsunami or truck-size rocks heading their way. "I wouldn't want to be here," says Morgan. Then she thinks of the spectacle. "Well, maybe in an airplane."

The park sits on a still-active 30- by 45-mile caldera, a depression created when a volcano erupted 640,000 years ago. Chances of a lava eruption in the next 10,000 years appear remote, but magma simmering four to five miles beneath the caldera's trapped groundwater drives the park's hydrothermal convulsions. Geysers like Old Faithful re-

Rangers (Hank Heasler checks for signs of danger) had to reroute boardwalks in Norris Basin after Pork Chop Geyser blew up.

ALL: TIM WRIGHT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"I don't want to scare them too much," Morgan says of the tourists.

lease pressure, but it can build to the breaking point when heated fluids get sealed in by shifts in rock structures, clogged vents or overlying sediment and mineral deposits.

In and around Yellowstone Lake—which lies near the caldera's center—Morgan and colleagues have identified several areas heavily pocked by past hydrothermal explosions. The pits, which appear to untrained eyes as ponds or depressions in the ground, are a few yards to hundreds of yards wide. Along the lake, in eroded beach cliffs and creek banks, Morgan has found layers of sand and sharp-angled rock up to three feet thick; the debris was hurled as far as three and a half miles by past explosions in the lake bed. Arrowheads jumbled in lakeshore deposits suggest unlucky prehistoric Native Americans were around for some of the explosions.

Major ones occurred from 3,000 to 14,000 years ago, according to radiocarbon dating of wood fragments mingled with the deposited rock and soil debris. Since people started keeping track, in 1872, there have been at least 20 minor blowouts at sites around the park, including several at favorite tourist spots such as Biscuit Basin and Norris Geyser Basin. The last notable one was in 1989, when the throat of Norris Basin's Pork Chop Geyser apparently clogged with minerals. When it burst, boulders rained down near tourists more than 200 feet away. (They were unscathed.)

Only recently did scientists realize the entire park was heaving up and down. In the 1970s, geophysics professor Robert Smith of the University of Utah compared new scientific surveys of ground elevations with surveys made for road building in the 1920s. He found the caldera's center had risen nearly three feet. It kept rising until 1985, when a series of earthquakes rocked the park. Scientists speculate that the tremors coincided with the sideways escape of pent-up gases. Afterward, the caldera began deflating by three-quarters of an inch a year. In 1995, some parts of it reversed direction and started reinflating, until stopping in 2002. In the meantime, a previously undetected 25-mile-wide swelling began outside the caldera, near Norris Basin, surrounded by smaller swellings one to three miles in diameter.

Though no one is sure what all of this heaving means, it's given researchers a sense of urgency about understanding the park's contortions. "Protecting visitors is our No. 1 concern," says park geologist Hank Heasler, who is working with other scientists to come up with a threat-assessment plan.

"People do a lot of crazy things," says volcanologist Lisa Morgan (foreground, with geochemist Pat Shanks).

New problem spots are popping up all the time as well. In March 2003, fourteen new steam vents opened along a 230-foot line north of Norris Basin, releasing plumes of dense water vapor and powdered glass shards in a tremendous roar. Then, last July, geysers began erupting at odd times. The park had to close off much of Norris when ground temperatures shot up in places from 80 degrees Fahrenheit to 200, and the earth near a boardwalk became more acidic and began to dissolve. The basin has since calmed down, and rangers have reopened most of it, but scientists are monitoring trailside areas with thermometers stuck in the ground, seismographs peppering strategic hills, and radar images taken from satellites. "Yellowstone is like a medical patient, but we haven't studied it long enough to know its normal pulse or respiration rate," says Heasler, standing half a mile from the new steam vents.

Morgan is still tracking the dome on the Yellowstone Lake floor called the "inflated plain." She first spotted it in 1999, while she and colleagues were mapping the lake bottom. The rise, she says, is apparently the result of steam or carbon dioxide building up under the lake bed, sealed in by sediments and overlying water pressure. The swelling seems to have grown in the 1990s and is suspiciously close in size to major blowout craters nearby. In fact, it lies along a nearby fissure, a crack that forms the bed of curiously straight Weasel Creek and continues through the lake bed itself. Morgan says the fissure may have been formed by the caldera's rise and fall, like the crack atop a loaf of bread rising in the oven.

At the lakeshore opposite the inflated plain one summer day, Morgan and USGS geochemist Pat Shanks investigate some small, inactive craters. They insert a temperature probe into the soil; six inches down, it registers 152 degrees F. Something is still fuming there. Suddenly, some tourists armed with cameras and collapsible walking sticks crest a ridge and charge down, and their guide collars Morgan for an impromptu lecture on the craters. She cheerfully obliges, telling the visitors that the craters are old features—probably not dangerous right now. She barely mentions the inflated plain. "I don't want to scare them too much," she says. "These people are on vacation."

Frequent contributor KEVIN KRAJICK's article "Medicine from the Sea" appeared in the May 2004 issue of SMITHSONIAN.

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The most common side effects with Cialis were headache and upset stomach. Backache and muscle ache were also reported, sometimes with delayed onset. Most men weren't bothered by the side effects enough to stop taking Cialis. Although a rare occurrence, men who experience an erection for more than 4 hours (priapism) should seek immediate medical attention. Discuss your medical conditions and medications with your doctor to ensure Cialis is right for you and that you are healthy enough for sexual activity.

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Patient Information

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Read the Patient Information about CIALIS before you start taking it and again each time you get a refill. There may be new information. You may also find it helpful to share this information with your partner. This leaflet does not take the place of talking with your doctor. You and your doctor should talk about CIALIS when you start taking it and at regular checkups. If you do not understand the information, or have questions, talk with your doctor or pharmacist.

What important information should you know about CIALIS?

CIALIS can cause your blood pressure to drop suddenly to an unsafe level if it is taken with certain other medicines. You could get dizzy, faint, or have a heart attack or stroke.

Do not take CIALIS if you:

- **take any medicines called "nitrates."**
- **use recreational drugs called "poppers" like amyl nitrate and butyl nitrate.**
- **take medicines called alpha blockers, other than Flomax® (tamsulosin HCl) 0.4 mg daily.**

(See "Who should not take CIALIS?")

Tell all your healthcare providers that you take CIALIS. If you need emergency medical care for a heart problem, it will be important for your healthcare provider to know when you last took CIALIS.

After taking a single tablet, some of the active ingredient of CIALIS remains in your body for more than 2 days. The active ingredient can remain longer if you have problems with your kidneys or liver, or you are taking certain other medications (see "Can other medications affect CIALIS?").

What is CIALIS?

CIALIS is a prescription medicine taken by mouth for the treatment of erectile dysfunction (ED) in men.

ED is a condition where the penis does not harden and expand when a man is sexually excited, or when he cannot keep an erection. A man who has trouble getting or keeping an erection should see his doctor for help if the condition bothers him. CIALIS may help a man with ED get and keep an erection when he is sexually excited.

CIALIS does not:

- cure ED
- increase a man's sexual desire
- protect a man or his partner from sexually transmitted diseases, including HIV. Speak to your doctor about ways to guard against sexually transmitted diseases.
- serve as a male form of birth control

CIALIS is only for men with ED. CIALIS is not for women or children. CIALIS must be used only under a doctor's care.

How does CIALIS work?

When a man is sexually stimulated, his body's normal physical response is to increase blood flow to his penis. This results in an erection. CIALIS helps increase blood flow to the penis and may help men with ED get and keep an erection satisfactory for sexual activity. Once a man has completed sexual activity, blood flow to his penis decreases, and his erection goes away.

Who can take CIALIS?

Talk to your doctor to decide if CIALIS is right for you.

CIALIS has been shown to be effective in men over the age of 18 years who have erectile dysfunction, including men with diabetes or who have undergone prostatectomy.

Who should not take CIALIS?

Do **not** take CIALIS if you:

- **take any medicines called "nitrates"** (See "What important information should you know about CIALIS?"). Nitrates are commonly used to treat angina. Angina is a symptom of heart disease and can cause pain in your chest, jaw, or down your arm.

  Medicines called nitrates include nitroglycerin that is found in tablets, sprays, ointments, pastes, or patches. Nitrates can also be found in other medicines such as isosorbide dinitrate or isosorbide mononitrate. Some recreational drugs called "poppers" also contain nitrates, such as amyl nitrate and butyl nitrate. Do not use CIALIS if you are using these drugs. Ask your doctor or pharmacist if you are not sure if any of your medicines are nitrates.
- **take medicines called "alpha blockers", other than Flomax® 0.4 mg daily.** Alpha blockers are sometimes prescribed for prostate problems or high blood pressure. If CIALIS is taken with alpha blockers other than Flomax® 0.4 mg daily, your blood pressure could suddenly drop to an unsafe level. You could get dizzy and faint.
- **you have been told by your healthcare provider to not have sexual activity because of health problems.** Sexual activity can put an extra strain on your heart, especially if your heart is already weak from a heart attack or heart disease.
- **are allergic to CIALIS or any of its ingredients.** The active ingredient in CIALIS is called tadalafil. See the end of this leaflet for a complete list of ingredients.

What should you discuss with your doctor before taking CIALIS?

Before taking CIALIS, tell your doctor about all your medical problems, including if you:

- **have heart problems** such as angina, heart failure, irregular heartbeats, or have had a heart attack. Ask your doctor if it is safe for you to have sexual activity.
- **have low blood pressure or** have high blood pressure that is not controlled
- **have had a stroke**
- **have liver problems**
- **have kidney problems or require dialysis**
- **have retinitis pigmentosa,** a rare genetic (runs in families) eye disease
- **have stomach ulcers**
- **have a bleeding problem**
- **have a deformed penis shape** or Peyronie's disease
- **have had an erection that lasted more than 4 hours**
- **have blood cell problems** such as sickle cell anemia, multiple myeloma, or leukemia

Can other medications affect CIALIS?

Tell your doctor about all the medicines you take including prescription and non-prescription medicines, vitamins, and herbal supplements. CIALIS and other medicines may affect each other. Always check with your doctor before starting or stopping any medicines. Especially tell your doctor if you take any of the following:

- medicines called nitrates (See "What important information should you know about CIALIS?")
- medicines called alpha blockers. These include Hytrin® (terazosin HCl), Flomax® (tamsulosin HCl), Cardura® (doxazosin mesylate), Minipress® (prazosin HCl) or Uroxatral® (alfuzosin HCl).
- ritonavir (Norvir®) or indinavir (Crixivan®)
- ketoconazole or itraconazole (such as Nizoral® or Sporanox®)
- erythromycin
- other medicines or treatments for ED

How should you take CIALIS?

Take CIALIS exactly as your doctor prescribes. CIALIS comes in different doses (5 mg, 10 mg, and 20 mg). For most men, the recommended starting dose is 10 mg. **CIALIS should be taken no more than once a day.** Some men can only take a low dose of CIALIS because of medical conditions or medicines they take. Your doctor will prescribe the dose that is right for you.

- If you have kidney problems, your doctor may start you on a lower dose of CIALIS.
- If you have kidney or liver problems or you are taking certain medications, your doctor may limit your highest dose of CIALIS to 10 mg and may also limit you to one tablet in 48 hours (2 days) or one tablet in 72 hours (3 days).

Take one CIALIS tablet before sexual activity. In some patients, the ability to have sexual activity was improved at 30 minutes after taking CIALIS when compared to a sugar pill. The ability to have sexual activity was improved up to 36 hours after taking CIALIS when compared to a sugar pill. You and your doctor should consider this in deciding when you should take CIALIS prior to sexual activity. Some form of sexual stimulation is needed for an erection to happen with CIALIS. CIALIS may be taken with or without meals.

Do not change your dose of CIALIS without talking to your doctor. Your doctor may lower your dose or raise your dose, depending on how your body reacts to CIALIS.

Do not drink alcohol to excess when taking CIALIS (for example, 5 glasses of wine or 5 shots of whiskey). When taken in excess, alcohol can increase your chances of getting a headache or getting dizzy, increasing your heart rate, or lowering your blood pressure.

If you take too much CIALIS, call your doctor or emergency room right away.

What are the possible side effects of CIALIS?

The most common side effects with CIALIS are headache, indigestion, back pain, muscle aches, flushing, and stuffy or runny nose. These side effects usually go away after a few hours. Patients who get back pain and muscle aches usually get it 12 to 24 hours after taking CIALIS. Back pain and muscle aches usually go away by themselves within 48 hours. Call your doctor if you get a side effect that bothers you or one that will not go away.

CIALIS may uncommonly cause:

- **an erection that won't go away (priapism).** If you get an erection that lasts more than 4 hours, get medical help right away. Priapism must be treated as soon as possible or lasting damage can happen to your penis including the inability to have erections.
- vision changes, such as seeing a blue tinge to objects or having difficulty telling the difference between the colors blue and green.

These are not all the side effects of CIALIS. For more information, ask your doctor or pharmacist.

How should CIALIS be stored?

- Store CIALIS at room temperature between 59° and 86°F (15° and 30°C).
- **Keep CIALIS and all medicines out of the reach of children.**

General Information about CIALIS:

Medicines are sometimes prescribed for conditions other than those described in patient information leaflets. Do not use CIALIS for a condition for which it was not prescribed. Do not give CIALIS to other people, even if they have the same symptoms that you have. It may harm them.

This leaflet summarizes the most important information about CIALIS. If you would like more information, talk with your healthcare provider. You can ask your doctor or pharmacist for information about CIALIS that is written for health professionals.

For more information you can also visit www.cialis.com, or call 1-877-242-5471.

What are the ingredients of CIALIS?

Active Ingredient: tadalafil

Inactive Ingredients: croscarmellose sodium, hydroxypropyl cellulose, hypromellose, iron oxide, lactose monohydrate, magnesium stearate, microcrystalline cellulose, sodium lauryl sulfate, talc, titanium dioxide, and triacetin.

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Raised from the Deep

By examining the remains of men who died 140 years ago aboard a Civil War submarine, a Smithsonian anthropologist is determining their identities

The entire crew perished when the *Hunley* (in a painting by Conrad Wise Chapman, 1863) sank in 1864. Anthropologist Doug Owsley (below, with artist Sharon Long, crafting a facial reconstruction) calls the recovered skeletons "beautifully preserved."

GRANGER COLLECTION; CHIP CLARK / NATIONAL MUSEUM OF NATURAL HISTORY, SMITHSONIAN INSTITUTION

ON THE EVENING of February 17, 1864, eight Confederate sailors wriggled through the narrow hatch of the *H. L. Hunley*, a 40-foot-long submarine made from plates of iron. The men knew the risks of their top-secret mission. The year before, the *Hunley*'s two training exercises had both ended in disaster, killing 13 men. But the unrelenting Union naval blockade was strangling Charleston, South Carolina, and so a desperate plan called for the sub to strike at a federal warship anchored in the harbor.

A 25-year-old lieutenant named George Dixon commanded a volunteer crew of seven whose names were never recorded. They sat crowded shoulder to shoulder on a bench in the three-and-a-half-foot-wide, four-foot-high space and turned an iron crankshaft to power the vessel's propeller. Four miles from shore, the *Hunley* came upon its quarry, the sloop USS *Housatonic*.

Dixon sent the *Hunley* forward and rammed the Union ship with a barbed, 135-pound explosive affixed to a spar protruding from the sub's bow. Minutes later, a blast tore away the *Housatonic*'s aft section and the ship sank. Observers onshore saw the *Hunley* hoist the blue lantern that would signal the mission's success—the first sinking of an enemy ship by a submarine in wartime. But then the submarine also sank, killing all aboard.

It would lay in the thick black silt of Charleston Harbor for 136 years, until underwater archaeologists recovered it in August 2000. The sub now rests at the Friends of the Hunley's conservation center in north Charleston, where Douglas Owsley, a physical anthropologist at the Smithsonian's National Museum of Natural History, is helping to solve the historic action's abiding mysteries: Who were the Confederate sailors and why did the vessel sink?

Working with archaeologists, Owsley created a three-dimensional digital map of the sailors' remains, which were embedded in fine silt that partially preserved bits of cloth-

Reconstructed *Hunley* crewmen, from left: Ridgaway, Wicks, Dixon and Collins.

ing and bodily tissues, from bones to brain matter. Owsley has had wide experience with such evidence. He has examined the 10,000-year-old skeletons of Paleoamericans and the remains of Europeans killed in 1992 and left in mass graves during the conflict in the former Yugoslavia. And he often analyzes victims of crime for law-enforcement authorities. "I'm looking for the answers to what killed them in their bones," he says.

Four of the *Hunley* sailors, he concluded, were frequent smokers; their teeth had been worn away by pipe stems. Another man could have been a barroom brawler, as indicated by a fractured nose and right cheekbone. Conventional wisdom held that these submariners were young and not very tall, but Owsley has shown that three men were arthritic and in their early 40s and one was 6-foot-1. After analyzing the composition of the sailors' teeth, which contain distinctive chemical signatures of the foods they ate, Owsley concluded that four of the men were Americans, who ate a predominantly corn-based diet, while the other four must have come originally from Europe, where they ate wheat, barley and rye.

The *Hunley* project's forensic genealogist, Linda Abrams, combed through census records and other Civil War-era public documents and came up with several candidates. Owsley attempted to match DNA from the Confederate sailors' remains with that of relatives identified by Abrams; he even arranged to exhume several bodies to obtain a source of DNA. Owsley says he's certain about the names of the four American-born sailors: Dixon; Frank Collins, 26, of Virginia; Joseph Ridgaway, 30, of Maryland; and James A. Wicks, 45, of North Carolina. The European-born sailors are proving more of a challenge to identify. This past April, 140 years after the *Hunley* foundered, the bodies of its crew received a full military burial at Charleston's Magnolia Cemetery.

As for the final moments aboard the submarine, Owsley and others are still trying to piece together what might have occurred. "The remains show no evidence of physical trauma that could come from a scramble to exit the submarine," he says. "So whatever happened, they died at their stations." —*JOHN F. ROSS*

HAITI COMES TO THE MALL

What does a fortress in Haiti (above), the largest in the Western Hemisphere, have to do with an event on the National Mall this summer? Along with celebrating Latino music and the culture of the Mid-Atlantic states, the Smithsonian Folklife Festival will feature Haitian crafts, music, art and foods to mark the bicentennial of the nation's independence. Haiti, located on the western third of the island that Christopher Columbus named Hispaniola, was originally inhabited by the Arawak people before being controlled by Spain and then, in 1697, ceded to France, which enslaved Africans to work on sugar and coffee plantations. For 12 years beginning in 1791, some 700,000 slaves battled colonial authorities, driving off the French. In 1804, Haiti became the second nation in the hemisphere, after the United States, to declare its independence. The next year, self-proclaimed Haitian king Henri Christophe ordered the building of a great fortress, capable of housing 5,000 troops, atop a mountain in the north near the town of Cap Haitien. Which brings us back to the Folklife Festival: among the 80 Haitian artisans and musicians scheduled to appear is Frederick Théodule, 49, a mason who has worked on Citadel Henri as part of the long-running effort to restore the landmark of liberty. "A huge experience," says Théodule, who will be taking questions from festival-goers and demonstrating his handiwork.

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Ink Dot Art

The *Wall Street Journal*'s signature pen-and-ink drawings of the newsworthy have been donated to the National Portrait Gallery

A LOT OF READERS of the *Wall Street Journal* ask the newspaper about the computer program that produces the curious stippled portraits that are a hallmark of the venerable publication. No, they aren't created by software. "Just old-fashioned pen and ink," says Noli Novak, one of the senior staff artists who labor dot by dot over the illustrations known around the newsroom as hedcuts.

With the acquisition of 66 original hedcuts from the *Journal*'s parent company, Dow Jones, the Smithsonian's National Portrait Gallery, best known for canvases of historic personages by the likes of Gilbert Stuart and John Singleton Copley, has extended its reach of American portraiture to up-to-the-minute images of newsworthy figures such as Oprah Winfrey, Bill Gates, Martha Stewart, Steve Jobs and Ralph Lauren. "There's this idea that portraiture is about a bunch of old white guys hanging in a dusty museum hall," says Anne Collins Goodyear, assistant curator of prints and drawings.

From top: Bill Gates, Oprah Winfrey and Steve Jobs.

Though the *Journal* is 115 years old, it started using the hedcuts only in 1979. A young freelance artist, Kevin Sprouls, showed some ink dot illustrations he'd created to the front-page editor. They seemed to capture the conservative ethos of Wall Street by evoking the look of 18th- and 19th-century engravings as well as paper currency and stock certificates. "They give that traditional, centuries-old sense that you are dealing with something stable," says Sprouls, who was hired as a staff artist later that year. A practical advantage of the drawings, which nicely convey facial features despite being only 3- by 5-inch originals, is that they remain legible when reduced to a half-column cameo on newsprint.

Artist Sprouls created the style.

To produce the hedcuts (which are so central to the paper's identity they survived the newspaper's redesign in 2002), Novak and five other staff artists typically labor four to five hours. Bent over tracing paper and art boards, they wield Rapidograph pens and occasionally make corrective dabs with white gouache. Their source material ranges from glossy publicity stills to photocopies of a driver's license—or worse. Sprouls, who left the newspaper in 1987 to return to freelancing, recalls an article about a businessman accused of wrongdoing who didn't want his picture in the paper. A reporter pinched a small photograph of the man from a bulletin board at his country club. "The quality was horrible," Sprouls recalls. "You could hardly make the guy's features out. But that's what I worked from."

Unlike traditional portraitists, the *Journal*'s artists seldom have the luxury of time. "Sometimes stories break quickly and you have to turn out a portrait in two or three hours," says Sprouls. Once, an art director challenged Sprouls to produce four hedcuts in a day. The illustrations were published, but the results, Sprouls recalls, were substandard: "We never did that exercise again." —*VICTORIA DAWSON*

The exhibition "Picturing Business in America: Hedcuts in the Wall Street Journal*" can be viewed at www.npg.si.edu.*

WHO'S COUNTING?

162

NON-NATIVE PLANT, ANIMAL AND MICROBE SPECIES, RELEASED DELIBERATELY OR ACCIDENTALLY BY PEOPLE OVER THE PAST TWO CENTURIES, THRIVE IN THE CHESAPEAKE BAY, ACCORDING TO THE SMITHSONIAN ENVIRONMENTAL RESEARCH CENTER IN EDGEWATER, MARYLAND. BECAUSE THOSE ALIENS OFTEN LACK PREDATORS, THEY CAN WREAK HAVOC IN THE BAY'S ECOSYSTEM. FOR EXAMPLE, THOUGH LOVED BY MANY, THE MUTE SWAN (ABOVE) HAS BECOME A MAJOR ECO-NUISANCE SINCE ITS RELEASE IN 1962, DRIVING OFF NATIVE WATERFOWL AND DEVOURING AQUATIC PLANTS.

KEVIN SPROULS / COURTESY OF NATIONAL PORTRAIT GALLERY, S.I.; NANCY JANUZZI / NATIONAL PORTRAIT GALLERY, S.I.; NOLI NOVAK / NATIONAL PORTRAIT GALLERY, S.I. (2); JOHNATHAN SMITH / CORDAIT PHOTO LIBRARY / CORBIS

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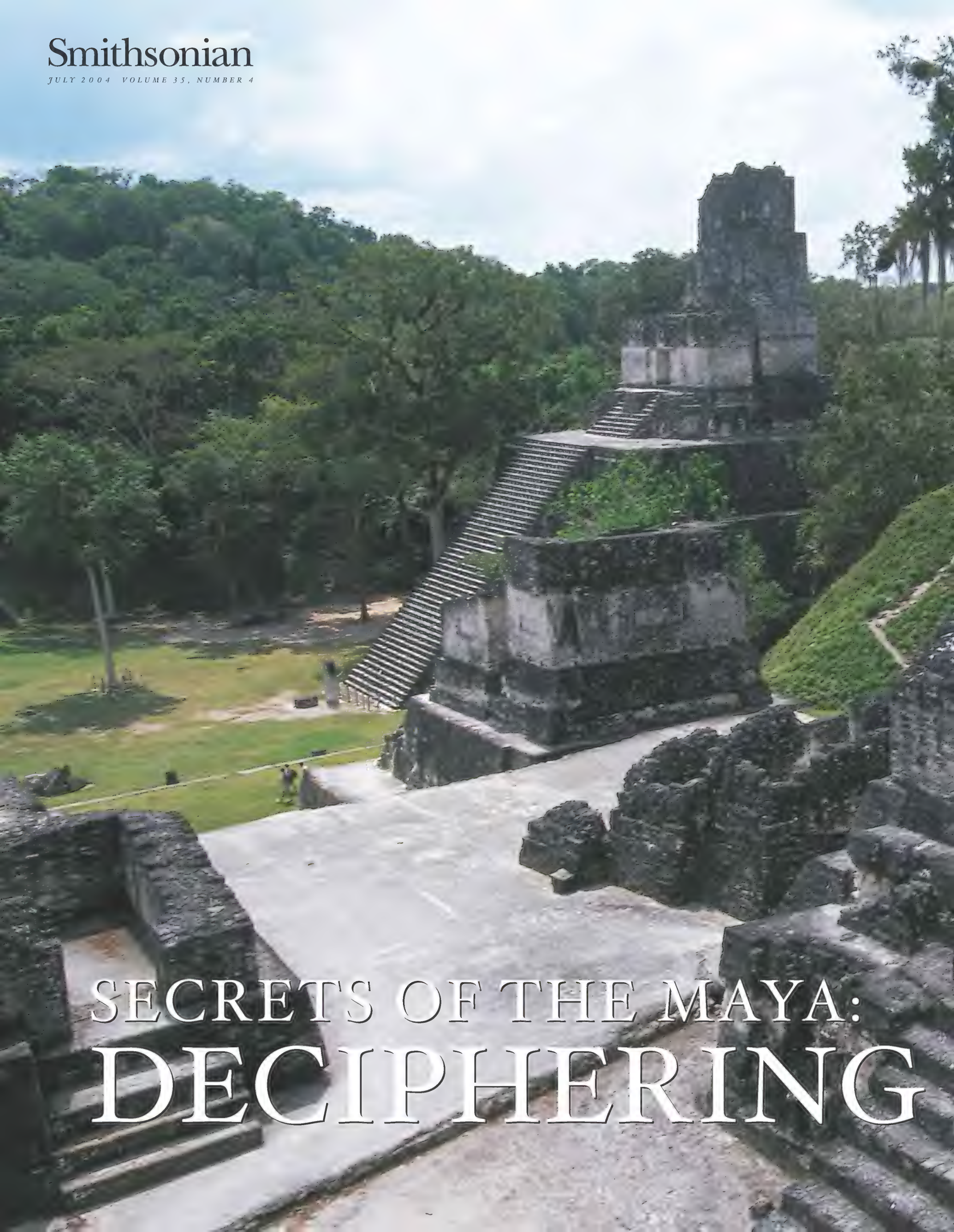

SECRETS OF THE MAYA: DECIPHERING

BY DAVID ROBERTS

PHOTOGRAPHS BY WOLFGANG KAEHLER

After decades of intense research, the ancient ruins of Mexico and Central America are yielding new insights into the pre-Columbian culture

TIKAL

TIKAL'S GREAT PLAZA, at the heart of what was one of the most powerful city-states in the Americas, is surrounded by monumental structures: the stepped terraces of the North Acropolis, festooned with grotesque giant masks carved out of plaster and masonry; a steep pyramid called Temple I, whose roof comb towers 145 feet above the ground, and its mate across the plaza, Temple II, soaring 125 feet above the grass; and a complex of mysterious buildings called the Central Acropolis. At the peak of its glory, around A.D. 750, Tikal was home to at least 60,000 Maya and held sway over several other city-states scattered through the rain forest from the Yucatán Peninsula to western Honduras.

Though magnificent, the ruins of Tikal visible today represent but a fraction of the original city-state. During its heyday, archaeologists say, "downtown" Tikal was about six square miles, though research indicates that the city-state's population may have sprawled over at least 47 square miles. Yet most of Tikal—the heart of Guatemala's Tikal National Park, about an hour's drive northeast of the modern city of Flores—has not even been excavated. And until recently, the same could be said about the nature of the Maya themselves.

For much of the 20th century, Maya experts followed the lead of Carnegie Institution of Washington archaeologist J. Eric Thompson, who argued that the Maya were peaceful philosophers and extraordinary observers of celestial events content to ponder the nature of time and the cosmos. Thompson, who died in 1975, theorized that Tikal and other sites were virtually unpopulated "ceremonial centers" where priests studied planets and stars and the mysteries of the calendar. It was a beautiful vision—but nearly all wrong. "For all of Eric Thompson's important findings in many areas of Maya studies," writes anthropologist Michael Coe in his 1992 book *Breaking the Maya Code,* "he singlehandedly held back the decipherment [of Mayan hieroglyphs] for four decades" and, consequently, the study of the Maya.

For nearly two millennia, the Maya flourished in cities in southeastern Mexico and all across Central America. But this was no jungle paradise. Archaeological evidence indicates they were warriors and conquerors.

When, in the 1960s, the hieroglyphs—the most sophisticated writing system created in the New World—were at last beginning to be deciphered, a new picture of these people emerged. Mayan art and writing, it turned out, contained stories of battles, sacrificial offerings and torture. Far from being peaceful, the Maya were warriors, their kings vainglorious despots. Maya cities were not merely ceremonial; instead, they were a patchwork of feudal fiefdoms bent on conquest and living in constant fear of attack. "Blood was the mortar of ancient Maya ritual life," wrote groundbreaking epigrapher Linda Schele and art historian Mary Miller in their 1986 book *The Blood of Kings*.

It is one of the ironies of this view that evidence for it has long been in plain sight. At the base of Tikal's North Acropolis stands a row of tall carved stones, or stelae. Each stela depicts a sumptuously bedecked king, and the monoliths are covered in hieroglyphs that, once deciphered, illuminated our view of Maya life.

During the Spanish conquest of Mesoamerica in the 16th century, the Catholic Church's Friar Diego de Landa supervised the burning of hundreds of Maya codices—fig-bark books rich in mythological and astronomical information. Only four Maya codices are known to have survived. And one key to the glyphs from that time was saved: a manuscript that Landa wrote in 1566 about his contact with the Maya. It recorded what he mistakenly thought was the Mayan alphabet. Although parts of his manuscript were first published in 1864, nearly a century would pass before epigraphers understood that Mayan hieroglyphs

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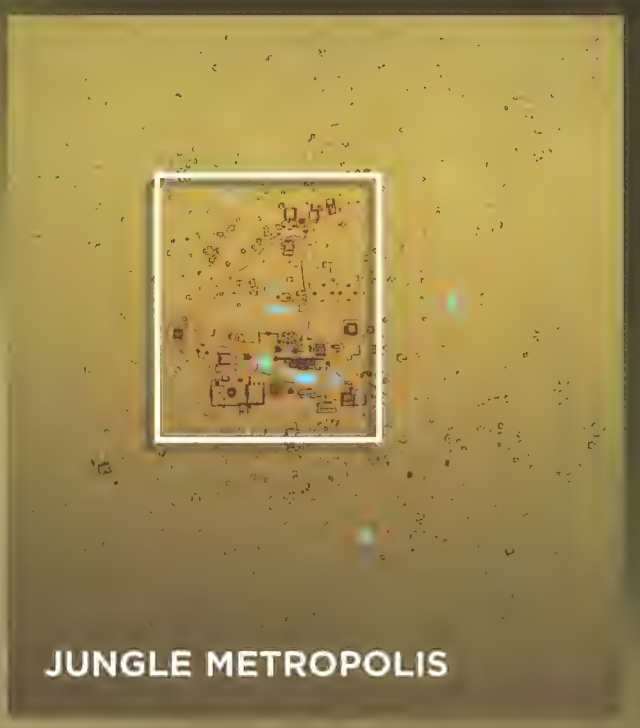
DAVID ROBERTS writes often about history. His most recent book is Four Against the Arctic. *WOLFGANG KAEHLER has traveled the world since 1977 and has photographed in 185 countries. Assistant Editor ANNE BOLEN contributed additional reporting.*

MIKE REAGAN; PP. 42, 43 WOLFGANG KAEHLER

SHRINES AND STELAE

Between 1956 and 1969, Tikal's central tombs and temples were mapped by University of Pennsylvania archaeologists. But as the six-square-mile survey map (right) shows, Tikal sprawled far beyond its "downtown," highlighted below. Towering over the Great Plaza filled with stelae is the North Acropolis tomb complex. Researchers from the Tikal National Project in Guatemala restored the nearby ceremonial complex dubbed the Lost World. At various times in Tikal's history, both these ruins and the North Acropolis may have been its center and royal burial ground.



DOUG STERN; SOURCES: TIKAL: A HANDBOOK OF THE ANCIENT MAYA RUINS BY WILLIAM R. COE; CHRONICLE OF THE MAYA KINGS AND QUEENS BY SIMON MARTIN AND NIKOLAI GRUBE, AND UNIVERSITY OF PENNSYLVANIA MUSEUM OF ARCHAEOLOGY AND ANTHROPOLOGY

are actually a combination of symbols using both logographs (words) and syllabic signs (units of sound). However, it was not until the 1970s that the full meaning of many hieroglyphs was understood. Today at least 85 percent of known Mayan texts have been read and translated.

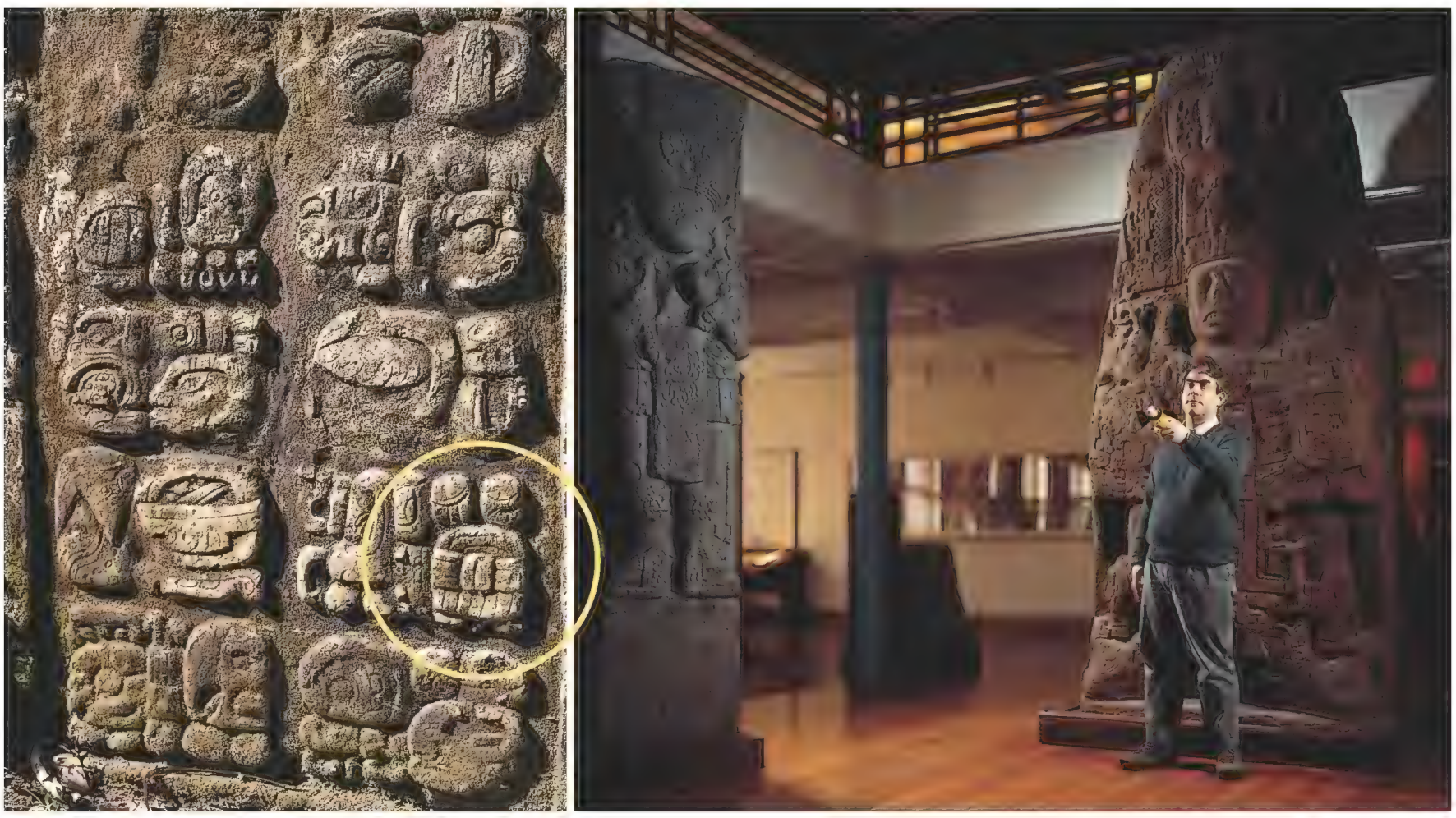
The descendants of the ancient Maya, who long ago lost the ability to read their ancestors' writings, have been in the midst of a cultural revival. Having weathered the Catholic Church's suppression of their culture during the 16th and 17th centuries and later endured a string of brutal dictators, including the notorious Efrain Ríos Montt—responsible for the murder of more than 100,000 Maya in the early 1980s—some Maya have begun openly to celebrate their heritage with pilgrimages to Tikal and other sites.

ABANDONED BY its original inhabitants more than a thousand years ago, the city remained unknown to outsiders for almost a millennium. In 1525, Spanish conquistador Hernando Cortés passed within a few dozen miles of the place without learning of it. Likewise, in 1841, the American diplomat, journalist and explorer John Lloyd Stephens and the British illustrator Frederick Catherwood reported with great fanfare their "discovery" of ruins in the Maya region, but they missed Tikal. Guatemalan archives mention that local people lived in Tikal in the 18th century, but the first official expedition to the ruin wasn't until 1848. Even "Tikal" is a relatively recent name, derived from the Mayan word *ti ak'al*, or "at the water hole."

A leader in the field of Mayan epigraphy is David Stuart, who was awarded a MacArthur Fellowship in 1984 at age 18—the youngest recipient of the so-called genius award—for his several publications and papers about deciphering Mayan hieroglyphs. He defined some previously unknown glyphs and refined the spelling rules of the Mayan writing system. Now 38, Stuart is the curator of Mayan hieroglyphs at Harvard University's Peabody Museum of Archaeology and Ethnology. He has a special fondness for Tikal. "It's the atmosphere of the place," Stuart says. "Tikal is simply one of the most overpowering archaeological sites in the world."

Though Tikal may have been settled by at least 600 B.C., most of the city's edifices were built during what is called the Classic period of Maya history, from A.D. 250 to 900. It was a time when the Maya created great artwork and amazing architecture across the region (see "Of Majesty and Mayhem," p. 49). Recent finds may yet force scholars to redefine the beginning of this period. This spring, archaeologists working at the nearby city of Cival uncovered evidence that distinctively Mayan art and writing may have developed as early as 300 B.C., and a wall painting dating to about A.D. 100, the oldest known intact Maya mural to date, was discovered in an 80-foot-high pyramid at the ruins of San Bartolo, a ceremonial site in Guatemala. Still, Tikal stands out. "The buildings at Tikal are particularly well built, and they have stood up quite well against the onslaught of the jungle," says Stan Loten, an architectural archaeologist and retired professor who conducted surface surveys of Tikal's standing structures from 1964 to 1970.

Much of what we know about Tikal today is the result of epigraphy, or the study of ancient inscriptions—like the glyph for "Tikal" (circled on stela, left). Epigrapher David Stuart (right, at Harvard University's Peabody Museum) spent part of his childhood at Maya ruins accompanying his father, Maya expert George Stuart. Friends have joked David's first word was in Mayan.



MATT HALE; GREG MILLER

WOLFGANG KAEHLER

Maya scribes carved standing stones, called stelae, with complex hieroglyphs and scenes to tell the stories of conquest and kings. After Tikal was conquered around A.D. 562, the carving stopped until 692, a period scholars call the Hiatus. An even more dramatic silence began a little more than 200 years later, when the Maya stopped creating stelae. Why? It's a mystery.

Beginning in the 1880s, well before other glyphs yielded up their meanings, researchers began decoding the Maya calendar from glyphs on stelae at sites all over the Maya world. Most stelae include the date of their creation, written in a five-number sequence known to scholars as the Long Count, or the number of days since the beginning of this current era. This system is built on a base of 20 rather than 10 and is made up of glyphs and combinations of a single dot for "one," a bar for "five," and a glyph that translated to *mih*, or "zero." Once scholars figured out this system, they were able to correlate it with the Gregorian calendar, revealing an astonishing sense of time: the Long Count starts in 3114 B.C. The earliest dated monument yet discovered in Tikal and all of the Maya lowlands, Stela 29, has a Long Count date of 8.12.14.13.15, which translates to A.D. 292.

Understanding this calendar was an important step in understanding the history of the Maya. Of all the dated stelae found at Tikal, not one is from between A.D. 562 and 692. This period of monumental silence is known as the Hiatus. For decades, scholars were at a loss to explain what happened during those years. But after the discovery of the Long Count, one of the next breakthroughs in deciphering the Mayan writing system was recognizing what experts call the emblem glyph—a unique hieroglyph that represents a specific city-state. Tikal's emblem glyph is read as *mutal,* which is based on the word *mut*, meaning "bound" or "tied." The glyph resembles how a ruler's tied-back hair might look from behind (see stela, page 46), and appears on stelae in ancient Maya city-states as far away as Copán, about 180 miles to the southeast. But why?

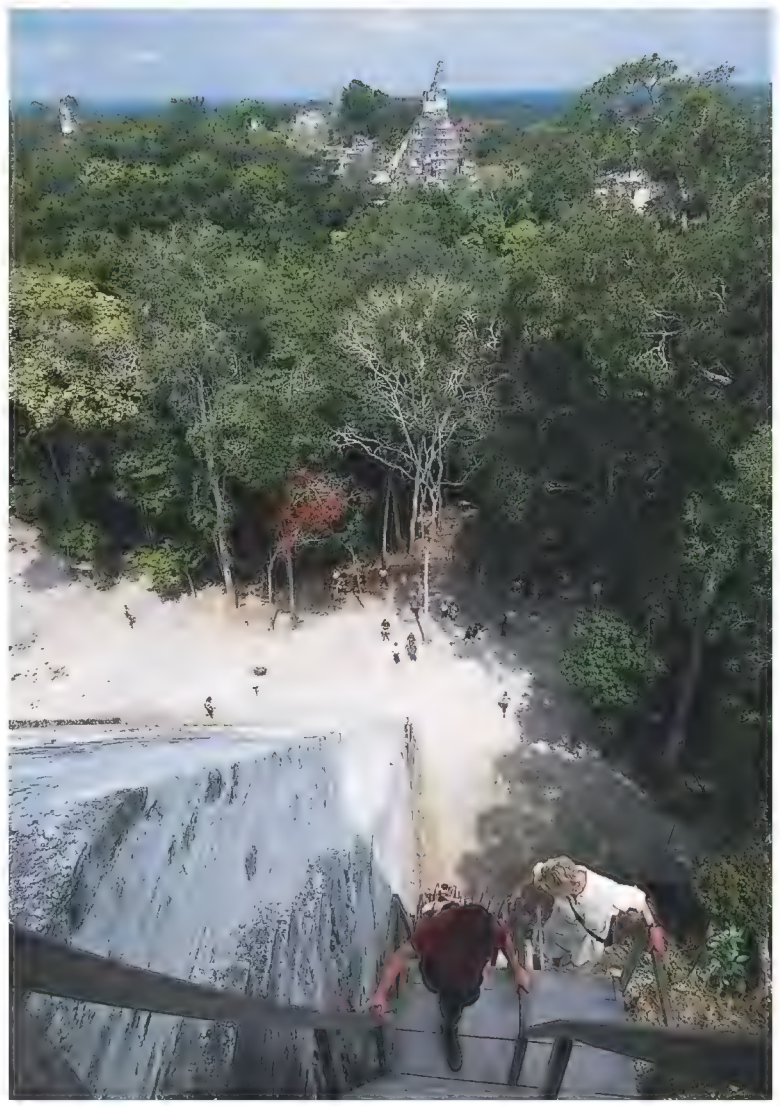
As experts translated more glyphs, they learned that Tikal had lost a war with Caracol, a Maya city in present-day Belize. The evidence is a boast of the victory, in A.D. 562, inscribed on an altar found in Caracol. That crushing defeat must have hung over Tikal like a pall. Before the glyphs were read, no archaeologist would have dreamed that Caracol, though a substantial city-state, could have laid low the mighty Tikal. Other stelae at Caracol suggest that the key to its triumph was an alliance with Calakmul, another Maya powerhouse in present-day Mexico. For more than 100 years, then, Tikal may have been a conquered city-state, languishing in thrall to foreign rulers.

Somehow, Tikal recovered. In 672, the city launched a war against Dos Pilas, about 70 miles to the southwest. An up-

start Maya city less than 50 years old at the time, Dos Pilas had the nerve to use Tikal's emblem glyph, calling itself in effect "New Tikal." In the war, Tikal was triumphant. Glyph-covered stone stairways at Dos Pilas record the city's defeat.

So explicit are Mayan glyphs that archaeologists have by now compiled a chronology of 33 rulers of Tikal (including at least one queen) spanning 800 years. Scholars formerly named these rulers after the glyphs that signified them, such as Double Bird, Jaguar Paw and Curl Snout. As epigraphers learned to sound out the glyphs, they assigned phonetic names. The architect of the first phase of Tikal's revival was Nuun Ujol Chaak, a warrior king also known as Shield Skull.

Nuun Ujol Chaak's era was hardly peaceful. As a young king, he fled Tikal when Calakmul declared war in A.D. 657. But he returned to lead Tikal's defeat of Dos Pilas in 672. Then, only five years later, Nuun Ujol Chaak lost again to Dos Pilas, which was most likely collaborating with Calakmul, probably the greatest Maya power at the end of the seventh century. Victory over Tikal's rivals was finally achieved by his son, Jasaw Chan K'awiil I, on August 5, 695. A drawing on a building in the Central Acropolis shows Jasaw carried in triumph into the city on a litter, leading his captive—perhaps the defeated lord of Calakmul—by a tether.



A wooden stair spares the ancient steps of Temple V. Tens of thousands of people visit Tikal's ruins each year. Though actual excavation of the ruins has stopped, preservation work continues at the sprawling site.

TEMPLE IV, erected about A.D. 741, is a dizzying pyramid that stands 212 feet above the ground, the tallest Maya structure ever built. Only the upper levels of Temple IV have been restored, but thanks to a pair of wooden staircases that surmount the rubble, visitors can climb nearly to the top of this structure for the finest view at Tikal. A seemingly limitless green expanse of rain forest billows into the distance like waves on a chlorophyll ocean. There is no sign of any other human settlement.

Yet hidden in the jungle below is another of Tikal's mysteries. The Lost World is a complex of pyramids and buildings southwest of the Great Plaza. It was excavated and restored between 1979 and 1985 by Guatemalan archaeologists working on the Tikal National Project. The area, according to Guatemalan epigrapher Federico Fahsen, served as an observatory from about 500 B.C. to A.D. 250. During the early Classic period, it vied with the North Acropolis as the ceremonial epicenter of Tikal and served as a royal burial ground.

Around the Lost World, architectural and artistic features suggest Tikal had links to Teotihuacán, a city in the highlands of Mexico whose culture flourished between A.D. 150 and 650, entirely separate from the Maya. Because Teotihuacán lies 630 miles from Tikal, many scholars originally doubted that the two empires were even aware of the other's existence. Yet ceramic designs found at Tikal and other Maya sites seem to mirror the iconography of the Teotihuacán culture—especially its grim-visaged storm god, Tlaloc.

Only six years ago, David Stuart untangled a series of fourth-century glyphic texts from Tikal's Stela 31 that helped connect the two empires. Remarkably, he was able to read the glyph that confirmed scholarly speculation pinpointing the day when a lord from Teotihuacán named Siyah K'ak', or Fire is Born, arrived at Tikal: A.D. January 31, 378. It is probably no coincidence that the 14th king of Tikal, Chak Tok Ich'aak I, long known as Jaguar Paw, died the same day. The impact that other civilizations have had on the Maya is just beginning to be understood, researchers say.

Perhaps the greatest Maya mystery of all is the cause of the civilization's abrupt decline. The last dated stela erected at Tikal was put up in A.D. 869; the last anywhere in the Maya world, in 909. The causes of what University of Pennsylvania archaeologist Robert Sharer calls "one of the most profound cultural failures in human history" have been debated for a century. The stelae are no help—the collapse seems to have ended most of the carving. Most likely, researchers speculate, a severe drought devastated a society that was already suffering from overpopulation and famine.

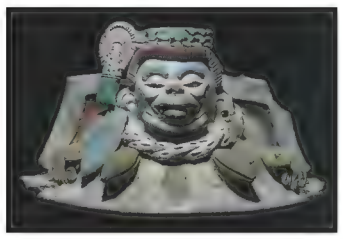
Tikal still keeps some secrets. Scanning a map of the ruins laid out on his desk, Stuart points to an area of nameless, unexcavated mounds just south of the Lost World. "I've always been curious about this group," Stuart says. "You can spend five or six years digging a site and not greatly change our understanding of Classic Maya civilization. What changes it is the fortuitous discovery of a new inscription." His finger rests on the area. "Who knows what you might find there?"

WOLFGANG KAEHLER

An exhibition of ancient Maya art points up the opulence and violence of the great Mesoamerican civilization

BY STANLEY MEISLER

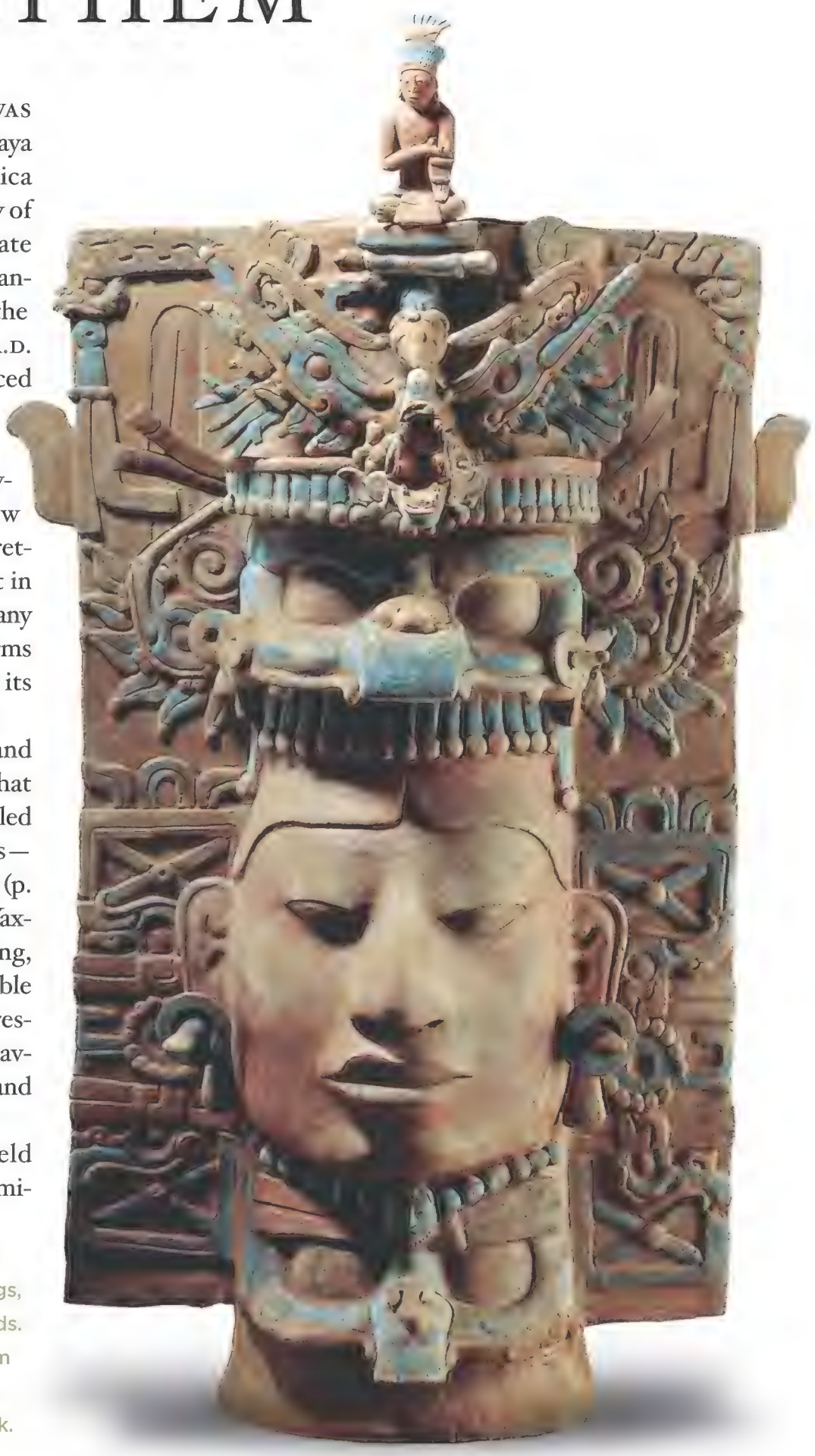
OF MAJESTY AND MAYHEM



WHILE MOST OF EUROPE WAS mired in the Dark Ages, the Maya of Mexico and Central America flourished. Living off a bounty of corn, they devised an elaborate calendar, charted stars and planets and invented the most complex written language in the Americas. And at the peak of their civilization, from A.D. 600 to 850, the Maya built monumental cities and produced art—stone sculptures, painted ceramics, delicate figurines and jade jewelry and masks—of astonishing beauty and striking, revelatory detail. Recently, scholars studying these pre-Columbian artworks have gained new insights into the life of the ancient Maya kings and their retinues. Now, an exhibition at the National Gallery of Art in Washington, D.C. of more than 130 Maya masterworks, many of them never before displayed in the United States, affirms the pomp and sophistication of Maya courtly life, from its royals' fondness for mirror-gazing to its chilling brutality.

The exhibition, organized by the National Gallery and the Fine Arts Museums of San Francisco, makes clear that Maya royalty—the more than 60 Maya city-states were ruled by hereditary kings who claimed kinship with the gods—lived within a rigid social hierarchy. A carved stone relief (p. 51) bearing an inscription dating it to A.D. 783 from the Yaxchilán area of southern Mexico shows a bejeweled king, Shield Jaguar III, sitting cross-legged on his throne. A noble known as He of Red Monkey kneels a step below and presents his booty of three captives who await their fate—slavery, torture or sacrifice. Their jewels have been plucked, and strips of cloth now fill the holes that once held earrings.

The relief also hints at Maya cosmology, with Shield Jaguar III wearing his hair upswept in thick bunches, remi-



Maya courts were the center of religious, as well as political, life. The Maya communicated with their ancestors via offerings, usually of blood and resin, burned in braziers on censer stands. The unusual stand with an idealized human face (right) is from Palenque. A spider monkey and cacao pods decorate the lid (above) of a vessel that held the Maya's prized chocolate drink.

MUSEO DE SITIO DE TONINÁ, CHIAPAS - INAH, MEXICO (2)

Views of court life were a favorite subject of Maya vase painters. In this scene, a reclining, bejeweled king gazes into a mirror. Maya rulers often turned to mirrors, thought to have magical powers, as oracles.

The Maya ballgame—in which the losers might be sacrificed—was both sport and ritual. It symbolized the struggle between life and death. Note the very elaborate padding.

niscent of ears of corn, in emulation of the Maize God. One of many gods thought to inhabit the sky, earth and underworld, the Maize God, according to Maya belief, was lured to the underworld, where the death gods murdered him, burying his body and putting his head in a calabash tree. His twin sons, half human and half divine, entered the underworld, defeated the gods and resurrected their father. Significantly, the myth of the Maize God has a parallel with the life cycle of corn, which is "decapitated" and reborn every year.

A scene (detail, left) painted on a small cylindrical vessel from A.D. 600-800, depicts a more intimate moment. A pot-bellied king, sporting a headdress shaped like a rabbit's head and gazing intently into a mirror, holds a fly whisk (a symbol of authority) in one hand and stretches out the other, showing off long, delicate fingernails. The Maya believed that mirrors possessed magical powers and often consulted them as oracles. A bodyguard stands behind the throne and a courtier, just beneath it, watches over vessels that scholars believe held a spiced chocolate drink (made from cacao beans) highly valued by the Maya elite. A dwarf drinking from a bowl, a hunchback, and a courtier, clutching a bouquet of flowers, sit in front of the king. Wooden horns and a conch-shaped trumpet suggest the presence of musicians.

The artistic remains of Maya society document that dwarves and hunchbacks, who were companions to the Maize God in Maya cosmology, often served as trusted counselors to the kings. The court was also filled with queens, nobles, priests, messengers, eunuchs, ballplayers, singers, trumpeters, dancers, tortilla makers, weavers, artists and carvers. Scribes, a vital part of court life, recorded events, kept accounts of tribute and also functioned as artists.

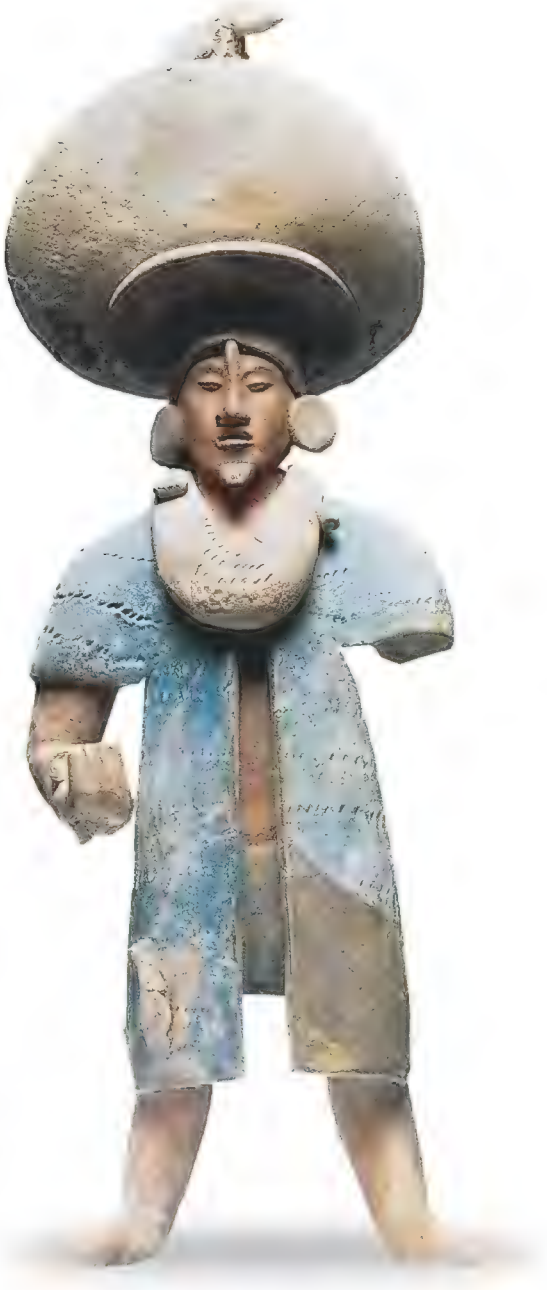
Women played a prominent role at court, and in a few rare cases ruled their city-states. Three intricately carved limestone lintels from a temple commissioned by and dedicated to Lady Xok (pronounced "shoke") in Yaxchilán attest to her wealth and prominence. Lady Xok was the principal wife and queen of Shield Jaguar the Great, who ruled Yaxchilán from A.D. 681 to 742. Two of the Lady Xok lintels were removed from the site in the 1880s by the British explorer and photographer Alfred Maudslay and placed in the British Museum. The third belongs to the National Museum of Anthropology and History in Mexico City. In the first lintel (p. 52), Lady Xok, wearing heavy jewelry, performs a ritual bloodletting, required of royalty,

Washington, D.C.-based author STANLEY MEISLER *writes frequently for* SMITHSONIAN *on art and culture.*

NATIONAL GALLERY OF AUSTRALIA, CANBERRA; MUSEO NACIONAL DE ANTROPOLOGIA - INAH, MEXICO

KIMBELL ART MUSEUM, FORT WORTH, TEXAS

Maya art often depicts kings in their political role—greeting envoys, waging war, accepting tribute. In this carving, a noble, He of Red Monkey (right), presents the king of Yaxchilán, Shield Jaguar III (upper left), with three prisoners taken in battle in A.D. 783.



The large hat on the A.D. 600-900 ceramic figurine (right), found in a tomb, indicates a traveler—likely a messenger or emissary. Maya rulers paid for their status in blood. A limestone lintel (below) shows Lady Xok of Yaxchilán, at right, performing a ritual bloodletting. Her husband, king Shield Jaguar, stands over her with a torch.

as an offering to the gods to guarantee the continuation of life. Shield Jaguar stands over her with a torch or burning spear as she pulls a rope with thorns through a perforation in her tongue. Blood drips onto paper in a basket. In the second lintel, a kneeling Lady Xok burns offerings of blood-soaked paper and conjures a vision of a gigantic snake disgorging a warrior—possibly an ancestral spirit or, more likely, her husband, Shield Jaguar himself. In the final lintel, Shield Jaguar wears battle armor made of a mat-like material covered in cotton and feathers. Lady Xok hands him a shield and also a jaguar helmet (probably made from an actual head). The fiercest animal known to the Maya, the jaguar was a symbol of power.

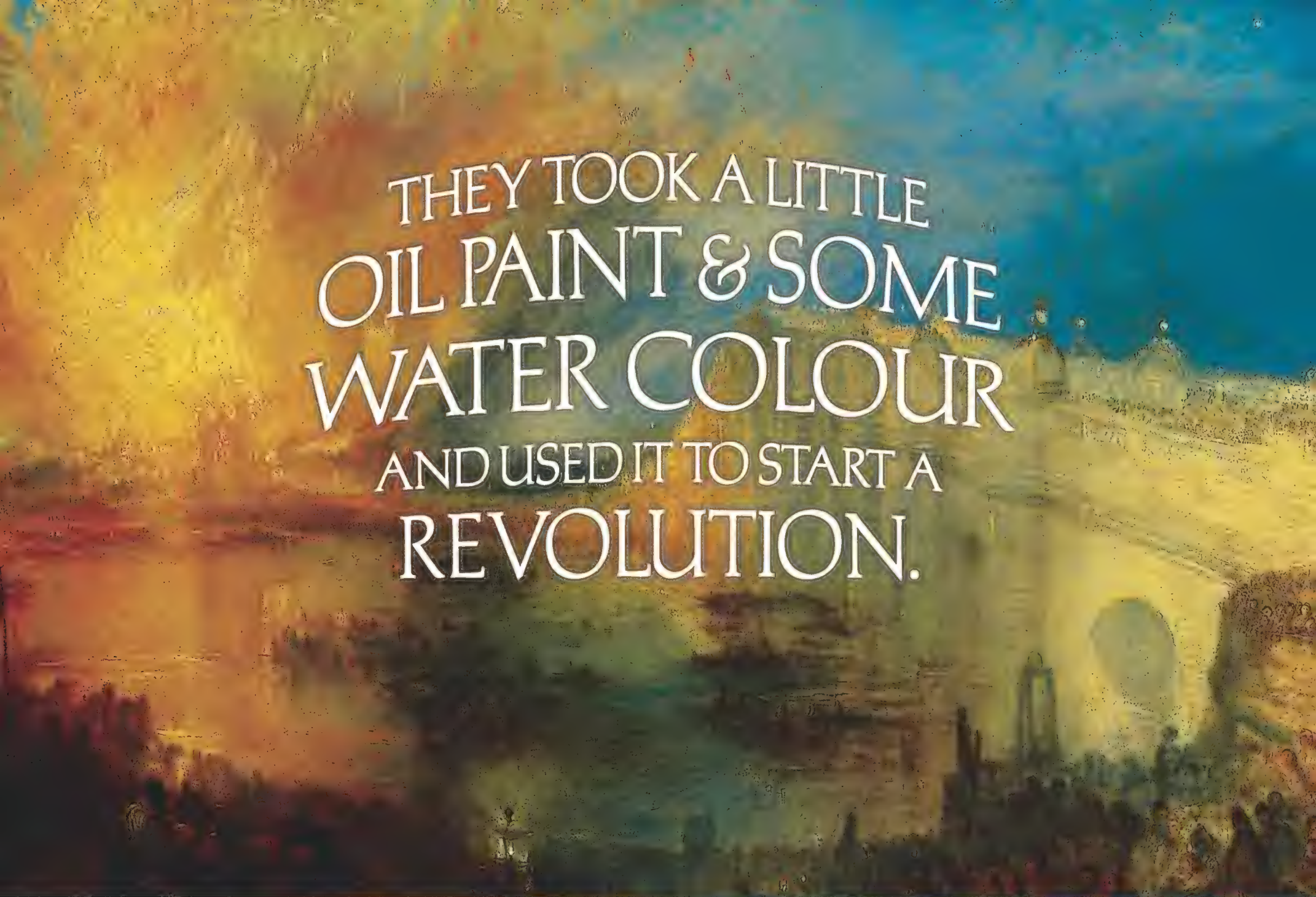
The darker side of Maya life is also evident in a series of murals from A.D. 790-800 that were found in 1946 by American photographer Giles Healey. (Reproductions of the murals are a centerpiece of the exhibition.) Healey was sent to Mexico by the United Fruit Company, which operated banana plantations in Latin America, to make a documentary film about the Indians of southern Mexico. One group, the Lacandon, led him to a Maya ruin (the site would later become known as Bonampak) where, in a small temple, the photographer came upon three rooms whose walls were filled with extraordinary murals. The paintings, though somewhat faded, were remarkably well preserved. Most of the scenes depict chaotic battles, and one shows a tableau (p. 54) in which warriors are presenting captives to a king named Yahaw Chan Muwan. Wearing a jaguar-skin vest and an enormous headdress of green quetzal feathers, the king is accompanied by his wife (Lady Rabbit of Yaxchilán), his mother, a servant and two noblemen swathed in jaguar pelts. On the steps below the king lie the body of a dead captive and a severed head. One of the king's warriors is cutting live prisoners' fingertips or stripping their nails. Several grimace in agony as they hold out their bleeding hands.

The murals helped change scholars' perception of the Maya, once viewed as primarily a peaceful people interested in astronomy and the calendar, but now understood to be aggressively territorial, warlike and violent. "There is no single artifact of the Maya that tells you as much about its time and place as the Bonampak murals," says exhibition co-curator Mary Miller, a professor of art history at Yale University, who heads a project there that is reconstructing the murals in their original full-color glory.

With Maya city-states often warring against one another, the disposition of captives was a recurring theme in their life and art. One carving from the city of Toniná in southern Mexico, its hieroglyphics tell us, is of a king from Palenque who was captured in A.D. 711. Sculptors carved images of bound captives into limestone steps, providing the victors with yet another means of treading upon the vanquished.

Palenque, set in the dense tropical rain forest of the Chiapas region of Mexico, was the first Classic Maya site found by the Spaniards, in the 1740s, and the fog-shrouded ruins have excited the fancy of travelers and scholars ever since.

MUSEO NACIONAL DE ANTROPOLOGIA - INAH, MEXICO; TRUSTEES OF THE BRITISH MUSEUM



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ONTARIO CANADA

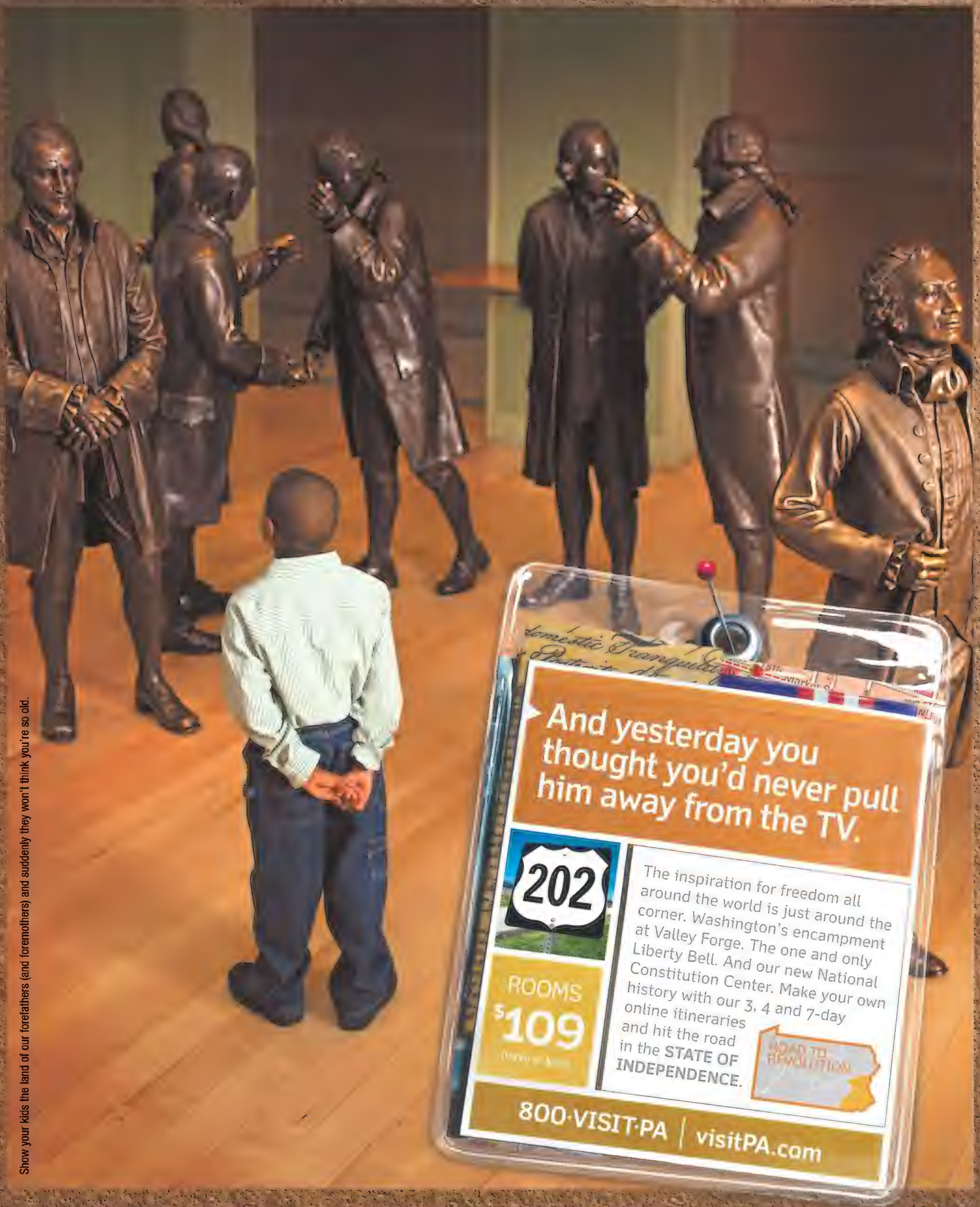
The exhibition is supported by the Department of Canadian Heritage through the Canada Traveling Exhibitions Indemnification Program. Hotel package rates based on double occupancy, one night accommodation and do not include taxes. U.S. prices based on current exchange rate and subject to change. All packages valid from June 12 to September 12, 2004 and subject to availability. Packages can not be combined with other offers or discounts. Top: J.W.M. Turner, *The Burning of the House of Lords and Commons, October 16 1834* [detail (exh. 1835)], oil on canvas. Philadelphia Museum of Art: The John Howard McFadden Collection, 1928. © 2004 Philadelphia Museum of Art. Bottom, left to right: J.W.M. Turner, *Venice: San Giorgio Maggiore possibly from the Hotel Europa* (detail), 1840, watercolour on paper. Private Collection USA; Claude Monet, *Sunset on the Seine, Winter Effect* (detail), 1880, oil on canvas. Petit Palais, Musée des Beaux-Arts de la Ville de Paris. © PMVP/Pierrain; J.W.M. Turner, *The Burning of the House of Lords and Commons, October 16 1834* [detail (exh. 1835)], oil on canvas. Philadelphia Museum of Art; Claude Monet, *Sunset on the Seine* (detail),1874, oil on canvas. Philadelphia Museum of Art: Purchased with the W.P. Wilstach Fund, 1321. © 2004 Philadelphia Museum of Art; James McNeill Whistler, *Nocturne in Blue and Silver: The Lagoon, Venice*, 1879-80, oil on canvas. Museum of Fine Arts, Boston, Emily L. Ainsley Fund, 1942. © 2004 Museum of Fine Arts, Boston.

"There is no single artifact of the Maya that tells you as much about its time and place as the Bonampak murals," says exhibition co-curator Mary Miller. The discovery of the murals in 1946 helped refute the popular view of the Maya as peace-loving stargazers. Most of the murals depict chaotic battles, but one (reconstruction above) pictures the grisly presentation of captives at court.

Maya specialist George Stuart, who was staff archaeologist for the National Geographic Society from 1960 to 1998, once called Palenque the "most beautiful and evocative" of all the Maya ruins. "From a distance," he wrote, "Palenque's buildings appear as tiny jewel casks gleaming whitely on their graceful pyramids and platforms." The most spectacular Palenque discovery came in 1952, when Mexican archaeologist Alberto Ruz Lhuillier found an immense sarcophagus at the end of a secret staircase deep inside the Temple of Inscriptions. "Out of the shadow arose a vision from a fairy tale," Ruz would recall. It was the tomb of Pakal the Great, who ruled Palenque from A.D. 615, when he was 12, until his death in 683, at 80. The tomb was covered by a slab with a bas-relief showing the king emerging from the jaws of the underworld—a scene symbolic of resurrection. Inside, Ruz found Pakal's skeleton and a jade death mask, with eyes of white shell and black obsidian. Jade jewelry adorned his remains—a necklace, pendants, earrings and rings. The highly prized green stone, colored rather like a corn husk, represented yet another royal association with the Maize God.

A strikingly individualistic stucco head of Pakal, also in the show, was found beneath the sarcophagus. It demonstrates the preference that Palenque sculptors had for naturalistic portraiture. (Other Maya artists, by contrast, tended to favor idealized portrayals of kings, making it difficult to distinguish one from the other.) "The idea of being interested in the individual is something that seems special for Palenque," says Miller. Simon Martin, a researcher at the

MUSEO DE SITIO DE TONINÁ, CHIAPAS-INAH, MEXICO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Jade was highly valued by the Maya. Its green color was associated with the Maize God and evoked his eternal youth and vigor. Maya kings donned jade ornaments as symbols of wealth and fertility and were sometimes buried in jade masks. Recently restored, this carved mask with shell and obsidian details (A.D. 600-800) is from Calakmul in southern Mexico.

INSTITUTO NACIONAL DE ANTROPOLOGIA - INAH, MEXICO

The storied kingdom of Palenque (above, c. 1889-1902) in present-day Chiapas, Mexico, was a vital center of artistic production for 120 years. Its greatest ruler, Pakal (right, in a stucco portrait from his tomb), reigned from A.D. 615 to 683.

University of Pennsylvania Museum of Archaeology and Anthropology and coauthor of the exhibition catalog with Miller, goes further. Pakal's artists, he says, were "in a sense creating a cult of personality."

In 2002, a limestone panel from A.D. 736 was found buried in the rubble of one of Palenque's temples. The relief pictures Pakal, who had died 53 years earlier, flanked by his grandsons. It was long believed that the period of Palenque's greatest wealth and power, and the achievements and artistic production that Pakal set in motion, ended with the reign (A.D. 702 to circa 720) of his second son. Mary Miller says that the discovery of this panel, which is featured in the exhibition, proves "that the long arm of Pakal extended right up to the end of the dynasty."

"Courtly Art of the Ancient Maya" will be on view at the National Gallery of Art in Washington, D.C. through July 25 and at the California Palace of the Legion of Honor in San Francisco, September 4 to January 2, 2005.

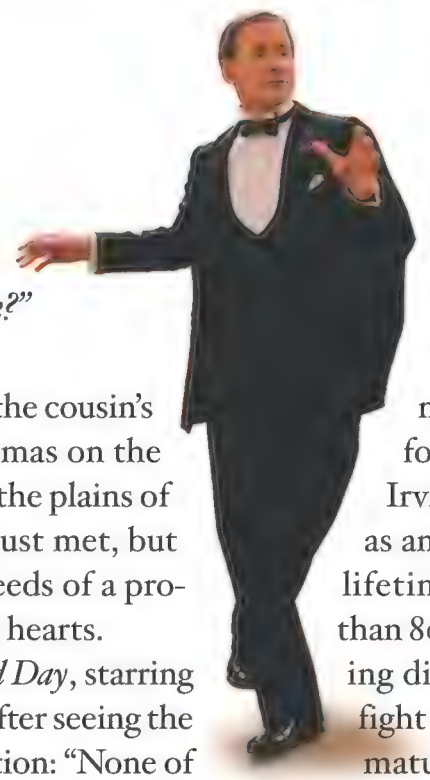
ALFRED MAUDSLAY / TRUSTEES OF THE BRITISH MUSEUM; MUSEO NACIONAL DE ANTROPOLOGIA, INAH, MEXICO

What Is This Thing Called Love?

A new movie explores composer Cole Porter's sparkling musical gifts and his remarkable, unorthodox marriage ~ *BY ROBERT F. HOWE*

A STAND OF LOGS burns brightly in the fireplace, snowflakes flicker at the window, and servants attend the gentlemen and ladies gathered around a grand piano played by a young Cole Porter, on holiday break from Harvard law school. Carolers, joined by his female cousin, sing:

In the still of the night,
While the world is in slumber,
Oh, the times without number,
Darling, when I say to you,
"Do you love me as I love you?
Are you my life-to-be, my dream come true?"



Porter gazes across the room at Linda Lee, the cousin's roommate who has come to celebrate Christmas on the Porter family farm in Peru, a humble town on the plains of northern Indiana. Porter and Lee have only just met, but the intensity in their eyes suggests that the seeds of a profound passion have already taken root in their hearts.

Pure Hollywood. The 1946 movie *Night and Day*, starring Cary Grant as Porter, was a grand deception. After seeing the film, Porter pronounced with obvious satisfaction: "None of it's true."

To begin with, Porter, who left Harvard law school in 1914 without graduating, didn't write "In the Still of the Night" until 1937. And he didn't meet Linda Lee until 1918—in Paris. Far from being the demure debutante who roomed with Porter's cousin, Linda Lee, 8 to 14 years Porter's senior (accounts differ), was a wealthy divorcée. And while it was true that Linda and Cole would marry, theirs was an unconventional relationship. Porter was homosexual, and some biographers think "In the Still of the Night" was written for one of his lovers. "It was tradition in olden Hollywood to chuck the truth—to bend, twist and invent a new truth that made for better, more homogenized entertainment," film critic and historian Leonard Maltin says of *Night and Day*.

Changing mores have set the stage for a more accurate cinematic rendering of Cole Porter's life. *De-Lovely*, starring Kevin Kline and Ashley Judd, released last month, is more musical than biopic, which is only as it should be for the story of a songwriter routinely listed with Irving Berlin, George Gershwin and Jerome Kern as among America's greatest composers. In Porter's lifetime—he died in 1964 at 73—he amassed more than 800 original songs. His works displayed astonishing diversity and depth, beginning with the quirky fight songs he wrote for the Yale football squad and maturing into the lyrics and music for such classic musicals as *Kiss Me, Kate* and *Can-Can*, as well as such endur-

"They loved each other," says Kevin Kline (above) about Cole Porter (opposite, c. 1934) and his wife, Linda. "They had a deep and abiding love for one another that was their own, that was unique and that was a very refreshing thing to play."

SIMON MEIN / METRO GOLDWYN MEYER PICTURES; P. 59 HORST P. HORST / CONDE NAST ARCHIVE / CORBIS

ing standards as "Anything Goes," "Begin the Beguine," "You're the Top" and "From This Moment On."

The movie's producer, Irwin Winkler, is a lifelong devotee of Porter's music, and hit on the idea of casting Elvis Costello and Alanis Morissette in supporting roles as a way to introduce a younger generation to Porter's genius. But Winkler, an Oscar-winning producer (*Rocky*) who also directed *De-Lovely*, wanted to tell a love story. "The music is fabulous," he says, "but the relationship between Cole Porter and his wife, Linda, is the heart and soul of the film."

Porter's marriage to Lee was rife with contradictions, and the film complicates matters by depicting events that are more speculation than verifiable fact. (For instance, the film posits that Lee miscarried a child fathered by Porter.) But as unconventional as their relationship may have been, it proved to be Porter's lifeline. "Whatever else you can say about their marriage," says Margaret Cole Richards, a cousin, "theirs was a loving, nurturing, caring, devoted relationship."

Porter (at age 11 in 1902) wrote his first song when he was 10. His mother, Kate (bottom, right), doted on the boy, who was closer to his grandfather, J. O. Cole (bottom), than to his father.

THE FIRST LOVE of Porter's life was his fashionable and well-educated mother, Kate, who fawned over her only child, born June 9, 1891, and encouraged his passion for music. He wrote his first piece, called "Song of the Birds," when he was 10. By contrast, her husband, Samuel Fenwick Porter, a taciturn pharmacist who died at age 69 in 1927 either of meningitis or from complications of a nervous breakdown, paid scant attention to his son.

At first, Cole was close to his grandfather, J. O. Cole, the family patriarch and a savvy entrepreneur who amassed a fortune with investments in waterworks, brewing, lumber, cold storage and other businesses. Young Porter was sent to Worcester Academy, a preppy Massachusetts boarding school, breezed through Yale and promptly entered Harvard law school. But when Cole came home for Christmas break in 1913, he announced that he was transferring to Harvard's school of music. J. O. lectured Cole about the importance of money, a commodity the young man had enjoyed spending at a brisk clip but had not given much thought to earning. In years to come, the young Porter seemed to drift farther and farther away from his family. "Cole had an aloofness that I believe was just his nature," says Margaret Cole Richards. "It wasn't that he didn't care. I think he was uncomfortable. He was more comfortable in the international society set than he was at home."

Porter moved to New York City in 1915 to take his chances on Broadway. His first musical, 1916's *See America First*, was a sendup of the kind of patriotic shows popularized by George M. Cohan. One critic called it "the worst musical comedy in town."

Don't leave America,
Just stick around the U.S.A.
Cheer for America
And get that grand old strain of Yankee Doodle
In your noodle. . . .

With a newly acquired aversion to New York theater critics, Porter set out for Europe in 1917. He would later claim to have seen action with the French Army in World War I, but that remains dubious.

He yearned to belong to high society, yet his Midwestern pedigree and the $500 monthly stipend grudgingly allowed him by J. O. weren't enough to gain entree to a tight circle of old money and raucous royals. He was, at first, a hanger-on, a dashing young rake who dazzled with his élan, wit, piano playing and good looks. Paula Laurence, who would be cast years later in Porter's *Something for the Boys*, said he was "a small man, very dapper, with a very round head like a doll and huge eyes which seemed to shut out the rest of the world when he looked at you, which was very flattering." It was on the arm of Bessie Marbury, a producer who had backed *See America First*, that Porter was introduced to the Parisian party circuit.

At a January 1918 wedding reception at the Paris Ritz Hotel, Porter met Linda Lee Thomas, a Kentucky beauty who had suffered through a miserable marriage to Edward R. Thomas, the combative heir to the *New York Morning Telegram* newspaper fortune. As part of their divorce two years earlier, Thomas had agreed to pay her $1 million to keep quiet about his cruelty and infidelities. To Linda, the well-mannered and witty Cole must have seemed the flip side of her macho ex-husband. At the Ritz that night, Cole and Mimi Scott, a friend of his, performed, and an enchanted Linda invited them to her home for dinner the next evening. Most accounts say that Porter and Scott were offended, thinking that Linda had mistaken them for hired help. But given Porter's love of practical jokes, it's also easy to imagine that he was just having some fun when he and Scott arrived decked out as music-hall entertainers, she in a jet dress and large-brimmed hat, Porter with his hair slicked

ROBERT F. HOWE, who likes ferreting out the facts behind movies, is a freelance writer based in Occidental, California.

CULVER PICTURES; COLE PORTER TRUST (2)

down, wearing a dreadful tailcoat with high collar. Whatever the intent, Linda was charmed.

Little is known about their courtship. Unattended by family, the couple married in Paris on December 18, 1919, around the time Porter wrote "Alone with You."

I want to go a flitting
Here, there, everywhere.
Dancing to bright lights,
Stay out all night lights. . . .
I feel left on the shelf
All alone with myself,
When I might be all alone with you.

What Porter saw in Linda was sophistication, security and someone to help him satisfy his voracious social appetite. She saw him as a ticket to a world equally remote to her. "What Linda wanted was to be a patron of the arts," says music historian Stephen Citron, who is writing a novel about Porter's days in Venice. "She tried desperately to get Cole to compose classical music, which she thought was the entry into fame. She finally gave up that quest. She really loved him and stuck by him because he was her passport to a kind of enduring fame."

"Together they made a greater whole," says William McBrien, author of the 1998 biography *Cole Porter*. "They had a brilliant social life in the first years of their marriage, and someone once suggested to me that Cole Porter may have been well suited to Linda because women who are great beauties don't want to be mauled by men."

Like Cole's mother, Linda believed deeply in Cole's music. "Because she was so worldly she taught him a lot," Brooke Astor, the doyenne of New York City's high society, concluded in David Grafton's 1987 oral history *Red, Hot and Rich!* "He could never have written the type of songs he wrote without her. She launched him into that set. . . . It was not the fast lane, it was the chic, intercontinental, European set. That is how and when it all began."

J. O. DIED IN 1923, and Porter got a share of the family trust and $1 million in cash. Overnight, his wealth matched his wife's. "People always say that so much money spoils one's life," Porter said years later. "But it didn't spoil mine; it simply made it wonderful."

The couple became a fixture of the social circuit overseen by gossip columnist Elsa Maxwell, for whom almost any occasion was worthy of extravagant celebration. Before long, the inseparable Linda and Cole became known as *les Colporteurs*. "They were more like a couple out of a Broadway play than a real couple," says biographer McBrien. They found a spacious home on the rue Monsieur not far from the Eiffel Tower, which Linda decorated in a staggeringly lavish style—Chinese lacquered tables, Art Deco furnishings, magnificent oriental rugs and generous bowls of freshly cut flowers, many from her own lush garden. She brought in a white grand piano and replaced a wall facing the garden with sheets of frosted glass so her husband could work in natural light.

Porter, below, at left, in August 1913 in England with, from right, Yale pals Gurney Smith, Charles Marshall and Peter Cooper Bryce, and bottom, vamping on the beach in Venice six or seven years later.

"Their house in Paris was exquisite, one of the most beautiful homes I have ever seen," lyricist Moss Hart recalled in *Red, Hot and Rich!* "And Linda Porter, a legendary beauty herself, lent something of her own radiance and splendor to their life together, so that everything and everyone in their house seemed to shine and sparkle."

In spring, the Porters reserved several rail cars and transported their entourage to Venice, where they rented palaces and hosted dance parties on the canals. Russian ballet master Sergei Diaghilev, then in residence in Venice, was a favored guest at the Porters' parties, perhaps because Linda was courting him to hire her husband to score one of his ballets. Through Diaghilev, Cole met a young poet and ballet aficionado named Boris Kochno, for whom some biographers believe the composer wrote one of his giddiest paeans to love:

I'm in love again
And the spring is comin',
I'm in love again,
Hear my heart strings strummin',
I'm in love again,
And the hymn I'm hummin'
Is the "Huddle Up, Cuddle Up Blues!"

Inevitably, Linda learned that Kochno was much more than an acquaintance of her husband's, a revelation that led to the first significant test of their marriage. Linda, apparently needing to be alone, urged Cole to leave Venice and return to New York for a while. The couple told friends that she was exhausted by the social whirlwind, which may, in part, have been true. Linda had suffered since her youth from a variety of respiratory problems that only grew worse over time. In any case, the hiatus worked, and the couple were soon reunited.

COLE PORTER TRUST; EVERETT COLLECTION

"Together they made a greater whole," says a biographer of *les Colporteurs* (Linda, dachshund Jezebel Stuart, Cole, in hat, and the couple's close friend, Howard Sturges, in Venice, 1923). "They had a brilliant social life in the first years of their marriage."

FOR MOST OF the 1920s, Porter's output had been limited to writing an occasional song or inconsequential musical, or entertaining friends at the piano. "In Paris, Venice, and London he found an enthusiastic private audience for his witty songs in an international set that included Noël Coward, Gerald and Sara Murphy, and Elsa Maxwell," wrote Philip Furia in his 1990 book *Poets of Tin Pan Alley*. Maxwell recalled to Furia that Porter performed some of the same songs that had bombed in *See America First* to an " 'enraptured' audience, 'straining to catch the droll nuances of his lyrics.' "

Linda hoped that Porter would put his gifts to more serious purposes and had urged him to study formal orchestration—to little avail. But another gesture of hers did help him. In 1926, while they were in Paris, she invited a recently married friend to stay with them. The friend's new husband, Irving Berlin, would become one of Porter's most ardent boosters. And when Berlin was approached to score a musical about Paris the next year, he referred the producer to Porter, saying his love of the city made him the better choice. Critics raved about *Paris*, lavishing praise on "the flaming star" songwriter and lamenting that he paid more attention to night life than his music. The show included "Let's Do It," one of Porter's biggest hits. "Porter's star was in its ascendency," William McBrien writes.

But as Porter's reputation soared in the 1930s, his clever melodies and witty, often suggestive lyrics did not sit well with censors and often could not be broadcast on the radio:

Love for sale,
Appetizing young love for sale.
If you want to buy my wares,
Follow me and climb the stairs,
Love for sale.

"He was a risk-taker in his work," says Robert Kimball, editor of *The Complete Lyrics of Cole Porter*. "He was very candid about love and sex in his lyrics and he went against the censorship of his day. He made it easier for other writers to follow suit." Music historian Citron agrees. "The other great composers didn't have the depth of imagination in terms of music," he says. "Porter's musical execution was so avant garde that it's still fresh. It will never get clichéd; no matter how badly it's played, it will never become trite. He wrote lyrics about love and romance, but he also wrote about homosexuality, cocaine, brutality, gigolos—subjects that were *défendu* at the time, but things that we talk about all the time today. That's why audiences today still find excitement and newness in Porter's work."

Porter's succession of near-hits and blockbusters included *Fifty Million Frenchmen* (1929), *The New Yorkers* (1930), *Gay Divorce* (1932), *Anything Goes* (1934), *Jubilee* (1935) and *Red, Hot and Blue!* (1936). In New York City, Linda held a dinner party each opening night at her apartment, which adjoined his, on the

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41st floor of the Waldorf Towers on Park Avenue. The couple's arrival at the theater was timed so the buzzing crowd could behold them as they strode down the aisle moments before the lights dimmed. For each debut, Linda presented her husband with a one-of-a-kind cigarette case inscribed with the production's name and date. Her devotion to Cole's career was perhaps nowhere more evident than in the vast scrapbooks she kept, preserving ticket stubs, reviews, photographs, theater programs and other show business paraphernalia. (They now repose at Yale.)

IN DECEMBER 1935, Cole and Linda ventured to Hollywood, where he wrote the music for such films as *Anything Goes* (1936) with Bing Crosby and Ethel Merman and *Born to Dance* with Eleanor Powell and James Stewart. There, Porter became more indiscreet about his affairs. He also had his own coterie, from which Linda felt excluded. "She felt that he was jeopardizing his incredibly wonderful, talented career," says Peter Felcher, a trustee with the Cole Porter Trust.

If low bars you like,
If old hymns you like,
If bare limbs you like,
If Mae West you like,
Or me undressed you like,
Why, nobody will oppose.
When ev'ry night, the set that's smart is in-
Truding in nudist parties in
Studios,
Anything goes.

Porter (clockwise from top: with Linda, in 1954, Ann Miller, in 1953 on the movie set of *Kiss Me, Kate,* and Ethel Merman in 1939) "was a risk-taker in his work. He was very candid about love and sex in his lyrics."

In 1937, having failed to convince Cole to leave Hollywood, Linda fled to their Paris house and, for the first time, contemplated divorce. Cole pursued her, but friends characterized their reunion as icy. That fall, a despondent Porter sailed to New York alone.

Visiting a friend's farm on Long Island shortly after his return, he went riding at a nearby riding club. His horse fell and rolled over him, crushing both of his legs. Porter later told friends that as he writhed in the dirt waiting for help, he composed lyrics in his head.

Linda arranged passage to the States and rushed to his side. When one doctor told her that Porter's right leg, and possibly his left, should be amputated, she took over the case, bringing in another physician, who also recommended amputation. Linda said no. Ironically, she had faced a similar dilemma years before. Her first husband had been in a car accident that had mangled his leg, and doctors urged that it be amputated. She and her husband refused, hoping for the best, and his leg eventually healed.

Cole and Linda were now as close as ever. "Their marriage had been on the skids," says Margaret Cole Richards, "but after he had his accident, Linda came to his side and never left. And later, when she got sick, he stood by her."

Despite frequent surgery on his legs and almost constant pain, Porter went on to write some of his most enduring Broadway musicals: *Leave It to Me* (1938), in which the show-stopping "My Heart Belongs to Daddy" made an overnight star of singer Mary Martin; *Can-Can* (1953), which would be remade as a popular film starring Shirley MacLaine, Frank Sinatra and Louis Jourdan; and *Kiss Me, Kate* (1948), a spoof on Shakespeare's *Taming of the Shrew*. Broadly acclaimed as Porter's most popular work, *Kate* featured such toe-tapping tunes as "I Hate Men," "Another Op'nin', Another Show," "Tom, Dick or Harry," "Too Darn Hot" and "Always True to You in My Fashion," with its complex brand of faithfulness that one is tempted to say expresses Cole's devotion to Linda:

There's a wealthy
Hindu priest
Who's a wolf,
to say the least,
When the priest goes too
far east, I also stray.
But I'm always true to
you, darlin',
in my fashion,
Yes, I'm always true to
you, darlin', in my way.

Linda gave up remonstrating with Porter about his affairs, perhaps out of sympathy for his physical affliction. She also closed their beloved Paris house and, as a retreat from Manhattan that they could both enjoy, bought a property in the western Massachusetts town of Williamstown. She redecorated the main house and transformed a carriage house into a cottage where Porter could work undisturbed.

Linda attended to Porter as best she could, but her worsening respiratory ailments made ministering to him difficult. Though at times she couldn't travel herself, she encouraged her husband to indulge his lifelong wanderlust. In 1939, having seen a magazine article about the ruins of Peru's Machu Picchu, Porter resolved to visit the site, despite hav-

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ing to negotiate precarious mountain trails. He made much of the journey on horseback and was carried over especially difficult terrain by his valet and Ray Kelly, a former sailor whom the Porters had met on a cruise and later hired to be Porter's assistant. According to biographer McBrien, "Kelly considered Cole a person of great physical courage, sometimes verging on foolhardiness."

In early 1949 Linda, by now a near invalid, developed pleurisy and sought refuge in Arizona. Porter resumed his work in Hollywood and traveled frequently to Arizona to help care for her.

When she recovered sufficiently, they returned to New York and their adjacent apartments at the Waldorf. Except to lunch with her husband (a comforting ritual), Linda rarely left her suite, which came to resemble a hospital ward, complete with an oxygen tent. When the end neared, she seemed almost to welcome her release from her suffocating existence. She died in May 1954.

Porter was devastated. "I've had two great women in my life," he later said, "my mother, who thought I had this talent, and my wife, who kept goading me along, in spite of that general feeling that I couldn't appeal to the general public." Though Linda had wanted to be buried on their Williamstown estate, Porter had her body taken to Peru, Indiana, and placed in the family plot. At her funeral service, says Kimball, "he cried like a baby."

In the months that followed, Porter commissioned horticulturists to develop a hybrid rose, which he patented and named the Linda Porter rose. But he never again set foot in the main house in Williamstown, which he had always considered Linda's home. Instead, he stayed in his cottage, and if he needed something from the main house, waited while servants fetched it. When Porter returned to the Waldorf, he moved to a lower floor and had his apartment decorated by one of Linda's friends. It was said that only one picture graced the apartment walls: a portrait of Linda.

Porter briefly resumed a hectic social schedule, hosting dinner parties for the likes of Frank Sinatra, Gary Cooper, Judy Garland, Janet Leigh and Tony Curtis, Orson Welles, George Cukor and Claudette Colbert. But he lacked his former stamina. "He might be having a lovely dinner party, behaving perfectly charmingly, then all of a sudden it would be as if a curtain came down over his face," recalls Patricia Morison, who played the lead in the original *Kiss Me, Kate*. "Some people said, 'Oh, he can be so cold.' It wasn't that. He was in pain. That's when his valet would say, 'It's time, Mr. Porter has to go to bed.' He would grow tired easily, though in the theater he appeared always to be tireless."

In 1958, he finally lost his right leg to bone disease. He refused to be seen without his prosthesis, and depression, which had shadowed him for more than a decade, settled over him like a dark veil. "We didn't see the pain that I later read about," recalls Joey Cole Kubesch, Margaret Cole Richards' sister. "We didn't see the suffering, or the dulling of the pain with alcohol and pills. He hid it. But the amputation did him in. He felt he had no reason to live without that leg." He wrote no new songs in the six years that followed the operation. After fracturing his hip and suffering from a bladder infection, pneumonia and other ailments, Cole Porter died on October 15, 1964.

Porter wrote for both stage and screen (clockwise from top: the 1956 movie version of *Anything Goes* starred, from left, Donald O'Connor, Mitzi Gaynor, Zizi Jeanmarie and Bing Crosby. *Can-Can* opened at London's Coliseum in December 1954, three years after *Kiss Me, Kate* made its way to the same theater.

FOR MORE than 30 years, Linda and Cole Porter had been each other's companion, inspiration, comfort, protector and guiding light. In a way, their relationship was so conventionally "successful" that even family members had a difficult time accepting Porter's sexual orientation. "At first, my dad denied that Cole was gay," says Margaret Cole Richards. "That was just my dad's era."

While Porter may be best known for witty lyrics as frothy as champagne, in his most thoughtful songs he seems to stand in awe, both confounded and captivated, by an emotion that defies understanding:

What is this thing called love?
This funny thing called love?
Just who can solve its mystery?
Why should it make a fool of me?

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Stars are being born within the smoldering Swan Nebula 5,500 light-years away. Young stars beyond and to the left of this image heat the cloud of gas and dust, fueling the formation of new stars.

The orbiting space telescope has captured billions of years of star births and deaths, galactic collisions and the accelerating expansion of the universe. Now its own fate is in doubt

BY LAURA HELMUTH

Hubble's Last Hurrahs?

THE FUTURE of the Hubble Space Telescope doesn't look so bright at the moment. After 14 years of service and 650,000 images, many of them breathtaking, Hubble may have only a few years left. This summer, scientists and politicians are debating whether to abandon the most sophisticated instrument ever devised for eyeing the farthest reaches of the universe.

Orbiting 375 miles above Earth, Hubble is beyond the smudge and smear of the atmosphere. Clear of earthly mists, Hubble peers through the mists of time. The universe has been expanding ever since the Big Bang 13.7 billion years ago, and the farther away in space Hubble focuses its attentions, the farther back in history it gazes. With a steady, sensitive eye, Hubble has witnessed galaxies forming barely half a billion years after the Big Bang—capturing light that was generated 13 billion years ago. By flipping through Hubble's extraordinary snapshots, astronomers can trace the development of planets, stars, galaxies and the universe itself.

Perhaps the biggest surprise to come out of Hubble (backed by other instruments) is that the universe is not just expanding, but expanding faster and faster, propelled by a mysterious force called dark energy. Astronomers have deduced that dark energy makes up more than 70 percent of the stuff in the universe. But what exactly is it? That's "the most crucial question facing physics today," says Hubble senior astronomer Mario Livio. To see dark energy in action, Hubble is clocking the speed of stars that shone when the universe first showed signs of acceleration four billion years after the Big Bang. It's the only telescope equipped to spot these stars. "If Hubble were to, God forbid, die tomorrow, the entire search would be suspended," says Livio.

Hubble cast its deepest gaze yet during the Ultra Deep Field survey late last year. Most of the 10,000 galaxies it portrayed are mere tots, born only half a billion years or so after the Big Bang. Some have oddball shapes such as loops or spears, and after these gawky youngsters collide, the theory goes, they develop structures that we recognize as more familiar—ellipses or, like our Milky Way, nice, tidy spirals.

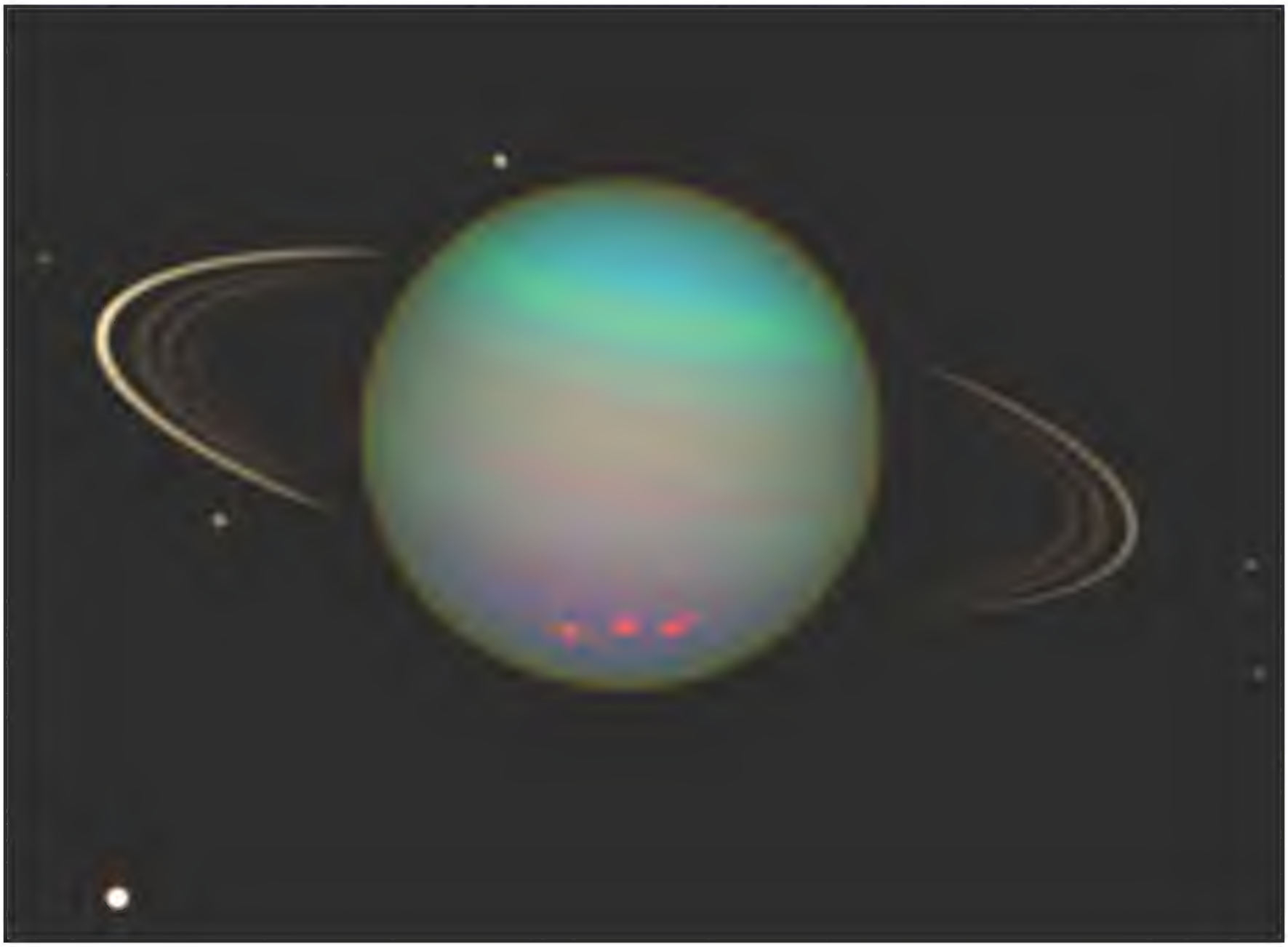
Some of Hubble's most glorious images show clouds of gas and dust, some of them hundreds of light-years across. Given world enough and time, and a little hydrogen and helium, a star can form at the center of the cloud and perhaps induce other stars to be born along with it. The result is what astronomers call a nursery of in-

In 2002, star V838 Monocerotis threw a brief, fiery fit (left). Over the next two years, this flash illuminated successive shells of surrounding dust, which were ejected by earlier outbursts. New highlights should be visible to Hubble for the rest of the decade—if the scope survives. Manned maintenance missions (above, astronauts replaced gyroscopes in 1999) have been canceled.

NASA, ESA, AND H.E. BOND / STSCI (3); NASA AND AURA / STSCI; NASA; PP. 66, 67 NASA, ESA AND J. HESTER /ASU; P. 69 NASA AND STSCI / AURA

It's too bad Edgar Allan Poe couldn't have used Hubble's vertiginous image of the Whirlpool Galaxy to illustrate "A Descent into the Maelstrom." The red regions are hotbeds of star formation, activated by a companion galaxy that is beyond the upper edge of this image. The central glow is a bulge of dust that probably feeds a black hole. Hubble astronomers have discovered that the more massive a galaxy's bulge, the bigger its central black hole. This suggests that the black hole—which captures everything it can get its gravitational mitts on, including light—is fed by matter that strays too close as the galaxy grows.

Viewed edge-on, a spiral galaxy cuts a completely different figure than the swirling Whirlpool. Galaxy ESO 510-G13, about 100,000 light-years across, is unusual because it's warped rather than perfectly flat. Astronomers suspect the galaxy is a product of a recent collision between two independent galaxies that are still hashing out their gravitational differences. Sometimes Hubble uses false-color images to highlight subtle features such as these clouds in Uranus' atmosphere (below). Hubble also discovered the smallest of Uranus' two dozen (so far) moons; they are only about ten miles across.



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Sometimes everyone in the universe, apart from the couple involved, can see that a relationship is doomed. These spiral galaxy partners, locked in a dance to the death, are already showing signs of strain as their spiral arms are distorted by their great mutual gravitational pull. Eventually they'll merge into one galactic giant, probably starting out in a wobbly plane like that of Galaxy ESO 510-G13. The Retina Nebula (below) is a star blazing out in glory. Hubble captured the dying star's blast of gas and dust from the side; viewed from above it would look like an exploding doughnut.

Hubble continues to discover galaxies as far as its eye can see. The Ultra Deep Field survey (part of which is at right) captured 10,000 galaxies in a speck of sky one-tenth the diameter of the Moon. Some of these galaxies formed shortly—relatively speaking—after the Big Bang. A precocious few have already developed well-defined spiral arms, but many have yet to take on a mature galactic shape.

fant and toddler stars. As Hubble has enabled us to see, stellar death throes can be just as spectacular, spewing out waves of debris set aglow by the light of the dying star's embers.

In a solar system not far from ours, the telescope watched a planet pass in front of its parent star, which illuminated the planet's atmosphere and revealed its chemical elements. Scientists seeking signs of life elsewhere in the universe hope to use such a trick to probe distant planets for oxygen or water. Even closer to home, Hubble has discovered planetoids beyond Pluto. It let us ooh and aah at Saturn's and Jupiter's equivalents of the northern lights. And in 1994, it witnessed comet Shoemaker-Levy 9 crashing into Jupiter.

Spaceflight wears out any machine, and Hubble has lasted this long only because it has been serviced four times by space shuttle astronauts. In 1993, astronauts fitted its eight-foot mirror with a giant contact lens to correct its vision. Other missions have replaced gyroscopes, which stabilize the craft, and swapped updated instruments for outmoded ones.

Now this incomparable eye may soon blink shut. The loss of the space shuttle *Columbia* last year curtailed shuttle missions, putting Hubble in jeopardy. And President Bush's announcement in January that NASA should aim to send people to the Moon and then to Mars spurred the space agency to cancel planned servicing missions. Without additional pampering, Hubble will probably chug along until 2007 or 2008, when its batteries or gyroscopes finally conk out.

Hubble devotees haven't entirely given up hope. The National Academy of Sciences is now weighing the feasibility and scientific merits of various proposals to prolong Hubble's life. Under consideration are robotic rescue ships, energy-saving strategies that can be implemented from Hubble's Baltimore control center, and new space shuttle missions (which would mean challenging NASA's decision to halt trips to Hubble). The academy's recommendations, along with the results of a General Accounting Office study of the costs of maintaining Hubble, are due this fall.

Since Hubble's 1990 launch, astronomers have developed ground-based scopes that squint through the atmosphere and rival some of Hubble's observational powers. And other satellite telescopes have joined Hubble in orbit. They're tuned to X-rays or gamma rays, however, which are scientifically important but somehow less stirring than the good old visible light Hubble sees. And sure, there will be other telescopes that surpass the pioneering craft. But stargazers everywhere will rue the loss of Hubble's magnificent view.

Laura Helmuth is a senior editor at SMITHSONIAN *magazine.*

Comfort for the masses? Or a tacky blight? Seemingly overnight, the one-piece plastic chair has become a world fixture. Can you stand it?

BY MARIANA GOSNELL

PHOTOGRAPH BY CHIP SIMONS

Everybody Take a Seat

MAYBE YOU'RE SITTING ON ONE right now. It has a high back with slats, or arches, or a fan of leaf blades, or some intricate tracery. Its legs are wide and splayed, not solid. The plastic in the seat is three-sixteenths of an inch thick. It's probably white, though possibly green. Maybe you like how handy it is, how you can stack it or leave it outdoors and not worry about it. Maybe you're pleased that it cost less than a bottle of shampoo.

No matter what you're doing, millions of other people around the world are likely sitting right now on a single-piece, jointless, all-plastic, all-weather, inexpensive, molded stacking chair. It may be the most popular chair in history.

That dawned on me recently after I started noticing The Chair in news photographs from global trouble spots. In a town on the West Bank, an indignant Yasser Arafat holds a broken chair damaged by an Israeli military operation. In Nigeria, contestants in a Miss World pageant are seated demurely on plastic chairs just before riots break out, killing some 200 people. In Baghdad, U.S. administrator L. Paul Bremer III, during a ceremony honoring Iraqi recruits, sits on a white plastic chair as if on a throne.

My curiosity aroused, I found this chair (via the Internet) almost everywhere: at a minor-league baseball stadium in West Virginia, at roadside food stands in Vietnam, at a rustic waterside tea garden in Istanbul, at a school principal's office in Malaysia, in shallow seas off Bora-Bora (where tourists sat on partly submerged chairs and ate grilled lobster off plastic tables). Friends told me of seeing it at huge village weddings in Afghanistan and Pakistan and in cinder-block houses in Mexico.

The plastic chairs in all those places were essentially alike, as far as I could tell, and seemed to be a natural part of the scene, whatever it was. It occurred to me that this humble piece of furniture, criticized by some people as hopelessly tacky, was an item of truly international, even universal, utility. What other product in recent history has been so widely, so to speak, embraced? And how had it found niches in so many different societies and at so many different levels, from posh resorts to dirt courtyards? How did it gain a global foothold?

For one thing, the resin chair, as it's technically known, is perhaps the world's cheapest seat. In some places, you can get one for a dollar. Also, it doesn't need painting or harsh cleaning (some folks dunk theirs in the swimming pool). It supposedly doesn't dent or corrode or fade in sunlight or harbor fungus or disintegrate in saltwater or chlorine. It's so lightweight that the very old and very young can drag it around. It is manufactured in Russia, Australia, Taiwan, Mexico, the United States, France, Austria, Morocco, Turkey, Israel and China, among other countries. How many have been sold? "Beyond millions," Wade Jones, a Miami-based distributor, told me. "I couldn't begin to guess how many."

The Chair took about a quarter of a century to come into being. After World War II, progressive designers like Charles Eames and Eero Saarinen tried to produce affordable plastic furniture. "There was a long evolution from the

In a sign of the times, the resin chair struts its stuff on the world stage. From top: In 2002, Palestinian leader Yasser Arafat offered damaged goods after an Israeli military operation in the West Bank town of Nablus. Miss World 2002 contestants in Calabar, Nigeria, enjoyed common comfort before deadly rioting moved the pageant to London. Near Boston in 2002, a diver searching for a piano supposedly thrown into a pond by baseball slugger Babe Ruth in 1918 came up virtually empty-handed. In Baghdad in October 2003, U.S. administrator L. Paul Bremer III sat through a ceremony for Iraqi troops.

war, with different plastics being developed and different designers trying to exploit these plastics," says Peter Fiell, coauthor with his wife, Charlotte, of the book *1000 Chairs*. Eames and Saarinen, among the most prominent mid-century furniture designers, made chairs with "shell" seats molded out of fiberglass-reinforced polyester. But their chairs had metal legs; the plastic alone wasn't strong enough to support someone. Saarinen (who died in 1961) very much wanted to produce a chair that was, as he put it, a "structural total," as all great furniture from the past had been. But when he made his famous tulip chair—a plastic shell seat atop a pedestal—he had to sheathe the metal pedestal in plastic so the chair would at least appear unified. "I look forward to the day when the plastic industry has advanced to the point where the chair will be one material," he once said. (If he were around today, might he think, Be careful what you wish for?)

In the 1960s, European designers created chairs that took advantage of improvements in plastics technology. One was a polyethylene stacking chair that, although it had detachable legs, was made by a process that would be central to success: injection molding. Another was an armless chair of fiberglass-reinforced polyester that was all-of-a-piece, legs included, but was produced by compression molding, a process less suitable for mass production.

Then, in 1968, came what Fiell calls "one of the most important events in the entire history of furniture design." Danish designer Verner Panton, after ten years of searching for the right plastic, produced the first single-form, single-material, injection-molded chair. It achieved total design unity in combination with a high-volume industrial process. Still, Panton's chair was very high style, a single long S curve with a U-shaped base, and demand for it was limited.

Eventually, a savvy manufacturer combined plastics, process and practical design to make The Chair as we know it. "It wasn't until a more utilitarian manufacturer embraced the injection-molding process that this design happened," Fiell says. So who set off this revolution in seating? "I wish I knew," Fiell says, adding that he assumes it happened in the early 1970s. In any event, none of the current makers of monobloc chairs—monobloc meaning a single piece of plastic shaped by injection molding—is taking the credit, or the blame, for the breakthrough.

GROSFILLEX, AN AMERICAN BRANCH of a French company with a factory in Robesonia, Pennsylvania, makes monobloc chairs for what it describes as the middle- to upper-middle end of the market. Touring the factory with Dan Yearick, Grosfillex's vice president of manufacturing,

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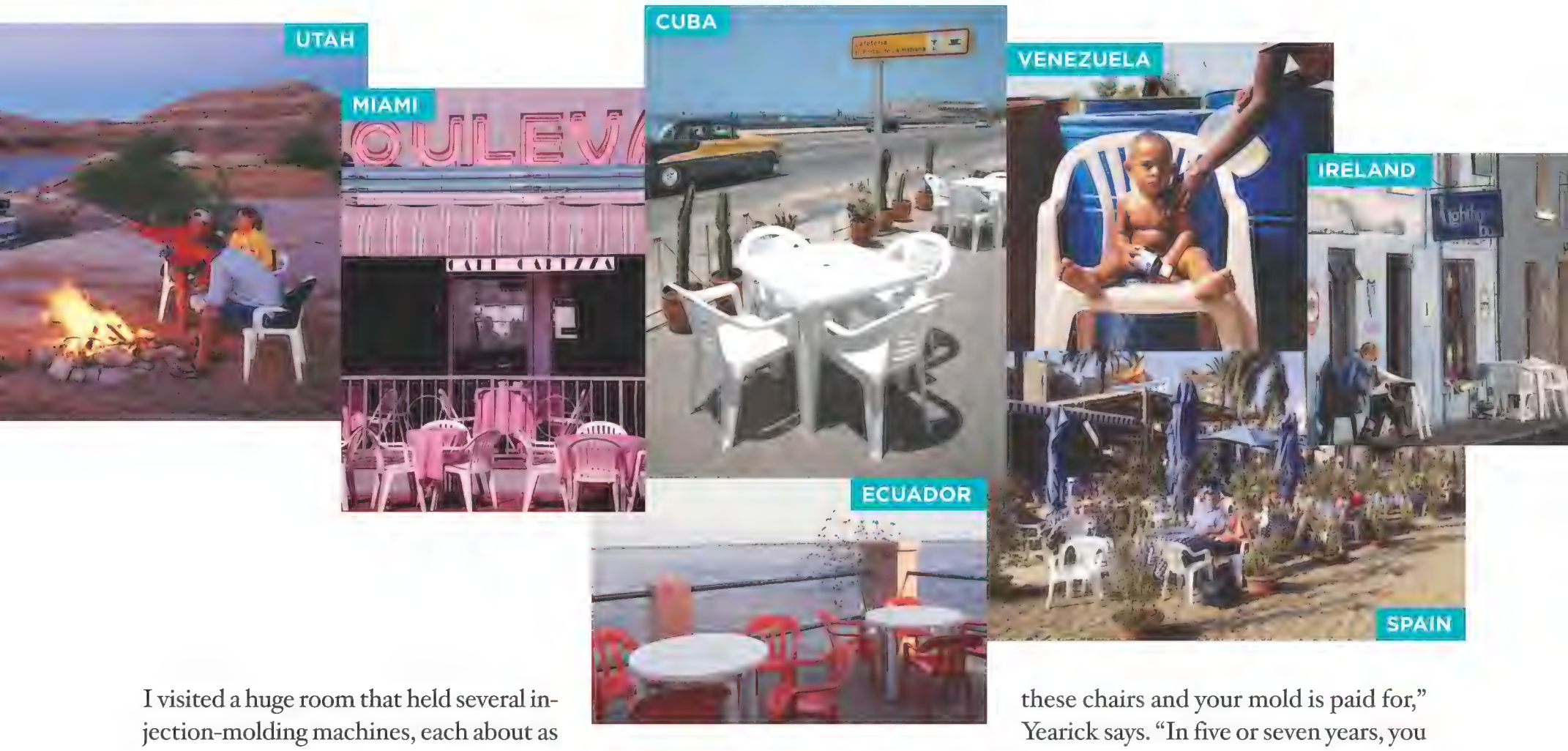
MARIANA GOSNELL is the author of the book Zero 3 Bravo, *about flying her vintage airplane across America. This is photographer CHIP SIMONS' first SMITHSONIAN assignment.*

NASSER ISHTAYEH / AP / WIDE WORLD PHOTOS; BORIS HEGER / AP / WIDE WORLD PHOTOS; C. J. GUNTHER; MARWAN NAAMANI / AFP / GETTY IMAGES

What is the world coming to?



I visited a huge room that held several injection-molding machines, each about as long as a locomotive. One was making an armchair called the Madras Classic, with a weave pattern on the back, in a color called sandstone.

The chair, Yearick told me, begins as thousands of BB-size pellets of virgin polypropylene (the plastic most used for the chairs these days), which are stored in a silo and piped to a hopper. Chemicals that tint and stiffen the plastic and protect the finish from damaging ultraviolet rays are added to the pellets, which fall into a 15-foot-long barrel heated to 440 degrees Fahrenheit. Then a screw about six inches in diameter with 1,000 tons of pressure behind it pushes the plastic through the barrel, whereupon the plastic melts and passes through a quarter-inch-wide hole in the side of a steel mold. The mold is chilled, and as soon as the molten polypropylene enters the cavity, it starts to harden. The time from pellets to chair: less than a minute.

Monobloc chairs may be cheap, but the equipment for making them is not. An injection-molding machine costs a million dollars. A new mold, of solid stainless steel engineered to thousandths of an inch, can cost $300,000. "You make a million of these chairs and your mold is paid for," Yearick says. "In five or seven years, you might sell the mold to a company in Africa for $50,000, and they will make a[nother] million chairs with it, and they can do it really cheap."

The resin-chair business hasn't been around long, but some veterans already remember a golden age. In the early 1990s, sales of plastic lawn chairs in North America were huge, says Rick Baker, a furniture retailer in Macedonia, Ohio. "We had a whole showroom wall of monobloc chairs stacked as high as you could go." For the most basic models, prices fell as manufacturers undercut each other, and the profit margin got so small that some companies went out of business or compromised on materials, making flimsier products. The molds are so costly that manufacturers were slow to change styles and flooded the market with clones of clones. A product that used to grace furniture showrooms and sell for $30 is now stacked, at $5 apiece or less, in front of hardware and grocery stores.

Paradoxically, perhaps, history's most popular chair engenders a lot of complaints. "They numb rear ends." "They increase perspiring." "They swallow you whole" (are hard to get out of). They're "annoying," "awful," "cursed," "dreaded," "scary," "silly," "stupid" and "ugly." The plastic chair is "in the worst possible taste," Karen von Hahn wrote in the *Toronto Globe and Mail* in 2003, "so cheap, ugly and everywhere, it

Prefiguring today's chair were models by Saarinen (top, 1957) and Panton (1968), the first one-piece injection-molded version.

GRAFTON MARSHALL SMITH / CORBIS; NIK WHEELER / CORBIS; BRIAN NOYES; DAVID ROCHKIND / POLARIS; JONKMANNS / BILDERBERG / AURORA / PHOTOLINK; MICHAEL ST. MAUR SHEIL / CORBIS; PABLO CORRAL V / CORBIS; KNOLL ASSOCIATES, N. Y.; ERICA GEORGE DINES / MUSEUM OF DESIGN, ATLANTA, GA

even succeeds in turning something inherently beautiful that we have borrowed from Europe's great public spaces—the outdoor café, dining alfresco—into a tawdry, second-rate imitation."

Hank Stuever, a *Washington Post* writer, expressed his scorn in a 2001 article, saying the "resin stacking patio chair is the Tupperware container of a lard-rumped universe."

The main objection of design critics who've bothered to comment on The Chair seems to be that it's merely a plastic version of conventional wood or metal chairs, rather than a new creation that honors plastic's sculptural potential. Karim Rashid, a New York City designer who has been called Plastic Man because of his respect for the often-derided material, claims the chairs started as reproductions of French garden furniture "and haven't progressed very much." After having one of them snap under him at a restaurant in Manhattan, he vowed to redesign what he calls the "omni chair." Why couldn't they be more beautiful, sensual and contemporary? he wondered. So he made sketches of several all-plastic chairs to replace the ones swamping the global market and showed them to three of the largest chairmaking companies. He got no takers.

For all the gripes about the resin chair, there are also abundant testimonials to its virtues. Want to furnish a living room until you can afford to buy fancy furniture? Sit while taking a shower after bypass surgery? Hold an outdoor graduation or provide seating in a cafeteria, nurses' station, fishing camp, courthouse hallway, trailer park? "I could not give a dance party without them," insists a hostess in Key West who gives a great many. Doug Hatelid of North Vancouver, B.C., has written that his decade-old chairs "fit the body well" and that he "chairishes" them. Fiell, the furniture historian, admits to placing several recyclable resin chairs around the yard of his vacation home in Spain. He didn't want to contribute to depleting the world's store of teak.

Although I cringe when I see white plastic chairs amid the trees at the Ontario lake I go to in the summer (where I usually sit on Adirondack chairs painted a tasteful cream), I have shed my initial disdain for The Chair. The other day I passed a community garden in a not-so-great section of Manhattan, and there among the tulips was a bunch of those white chairs, and people were sitting on them, talking, and I thought, "Way to go, chairs!" It's comforting to think that just about everybody who needs a seat can get one.

In any event, people might as well get used to it. Or so I gathered from a newspaper photograph showing a diver who'd searched in a Massachusetts pond for Babe Ruth's piano, which, according to legend, Ruth tossed off a cabin porch into the water in 1918. The diver found no trace of the piano, but he did emerge with an intact white resin chair.

The Chair is here to stay—and stay and stay and stay.

Some decry it as stupid, ugly and tasteless, but a British Columbia man, perhaps speaking for the masses, says he "chairishes" his.

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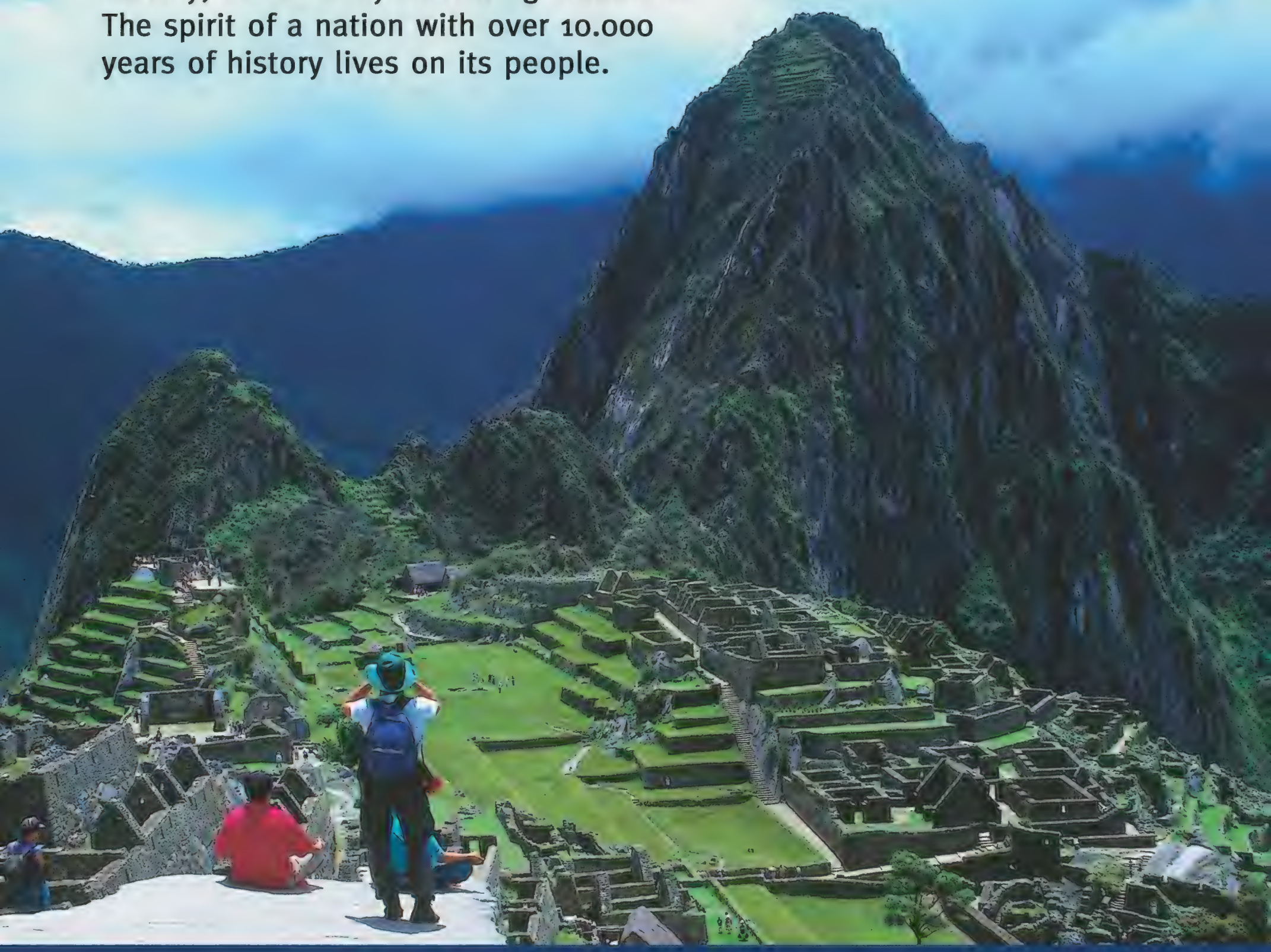

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Reinventing Pa

Welcome to Lahore, where an explosion of art and media is offering a vibrant alternative to the strictures of religious conservatives and is transforming one of America's most important—and most ambivalent—allies

BY MOHSIN HAMID

PHOTOGRAPHS BY ED KASHI

ONE NIGHT, as troops from Pakistan's army massed 300 miles away to hunt for remnants of Al Qaeda in the tribal areas bordering Afghanistan, I went to a concert in my hometown of Lahore. It was a pleasant evening, warm, with a light breeze carrying the smell of April flowers: flame trees, magnolias, jasmine. We sat outside on carpets spread across the lawn of a white bungalow, the audience ranging from teenagers with soul patches and ponytails to elegant matrons in saris. My back ached slightly, and I mentioned this to a friend as I reached for the only available cushion I could see.

"Don't even think about it," she said, patting her very pregnant belly. "It's mine."

The music we had come to hear was a fusion of modern and traditional percussion. There were seven musicians, all Pakistani. Three wore Western clothes and played Western instruments: keyboards, drum set and trumpet. Three wore loose-fitting, traditional Pakistani dress and played the *dhol*: a heavy, two-sided barrel of a drum hung from the shoulders on a thick leather strap. The seventh played a slender Egyptian drum held between the knees. The performance was a work in progress, an experiment that the group hoped to refine and take on tour to Europe and the United States in the summer.

For all their individual talents, the musicians had trouble finding a groove. But at times the audience could sense the potential of what was struggling to emerge, and in those moments I could see the excitement on people's faces.

The words "explosion" and "revolution" are often applied to Pakistan, a nuclear power contending with a tangle of domestic and geopolitical challenges, but the words should also be applied to the cultural life of the nation. Pakistan is witnessing an explosion of music, part of a revolution in art and

kistan

One of the world's biggest mosques, the Badshahi Masjid was built in 1674 by a Mogul emperor. In its shadow lies the Heera Mandi (Diamond Bazaar), Lahore's red-light district.

With seven million people, Lahore is Pakistan's second-biggest city, only 20 miles from the border with India. Right: Along Hall Road, the city's electronics bazaar, pirated Hollywood films go on sale within a week of their release in the U.S.

media with potentially far greater appeal to its young people than the sermons of religious conservatives urging them to abandon modernity and confront perceived threats to Islam. Over the past three years, a dozen independent television channels have sprung up, from general networks to specialized news, fashion and music stations. Combined with a boom in advertising, increasing economic growth and rapid cable and satellite penetration, these outlets are fueling not only a new industry, but also a new culture—one not limited to a narrow Westernized elite.

True, Pakistan is desperately poor, with half the population of 150 million illiterate and many subsisting on less than a dollar a day. But between 30 and 40 percent live in cities, and that percentage rises to more than 50 percent when one includes settlements within commuting distance of urban centers. For this half of Pakistan's population, electricity, telephones and television have become a part of ordinary life. Even in rural villages, TV can be found in restaurants and tea shops that are often as crowded with viewers as movie theaters. Last year, when members of the Pakistani rock band Junoon visited some of the country's most destitute and isolated regions, they found themselves mobbed by fans who knew their songs by heart.

This budding mass culture, virtually unknown to the West, is being created in cities like Karachi, Islamabad and Lahore. Karachi, home to 13 million people, is Pakistan's

MOHSIN HAMID's first novel, Moth Smoke, *was a finalist for the PEN/Hemingway Award.* ED KASHI *photographed New York City's and San Francisco's ports in the January issue of* SMITHSONIAN.

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"It is not good," says my parents' night watchman. "Pakistanis will kill Pakistanis, Muslims will kill Muslims, all for the Americans."

commercial capital, an enormous, humming metropolis whose occasional spasms of sectarian and criminal violence make for international headlines. Islamabad is Pakistan's political capital, small and quiet, with fewer than a million inhabitants and yet the most international of Pakistan's cities. But Lahore occupies a special place in the new mass culture. A prosperous city of seven million, Pakistan's cultural capital has long been a bastion of liberalism, hedonism and easy living, where late-night partying, open-air dining and colorful festivals, such as the kite-flying extravaganza of Basant every spring, draw visitors from all over the country and beyond.

DURING THE 16TH AND 17TH CENTURIES, the Mogul rulers of what was then India left Lahore a magnificent fort with an entrance ramp wide enough for elephants, a royal mosque among the largest in the world when it was built, and a palace with a mirrored ceiling that reflects candlelight like the flickering of stars. More recently, the British Empire built universities, clubs, courts of law and military quarters, or cantonments, in Lahore. The young protagonist in resident Rudyard Kipling's novel *Kim* told "tales of the size and beauty of Lahore"; a visiting Mark Twain came to the conclusion that he "could easily learn to prefer an elephant to any other vehicle." Famous for producing poets and artists and writers, the city is now also becoming known for its newscasters, actors, fashion models and pop stars.

And not a moment too soon, because Pakistan needs symbols of openness, debate and the potential for progress and prosperity in times that many Pakistanis find dangerous and deeply unsettling, as I was reminded by my parents' night watchman when I went to their house after the concert. Rahim Khan is from Pakistan's North-West Frontier province, from the mountains near the tribal areas where recent fighting has taken place. He looked worried, so I asked him what was the matter.

Rahim Khan, who guards a house in Lahore's upscale Gulberg district, worries that Pakistan's hunt for Al Qaeda militants will be good for Americans but bad for Muslims. Opposite: Women gather at Café Soul, one of many trendy eateries to open in the bustling city last year.

"Have you heard that the army is going back into Waziristan?" he said, referring to a region that has seen heavy casualties among both soldiers and civilians in operations to hunt down foreign militants belonging to Al Qaeda, the Taliban and other groups.

"Yes," I said.

"It isn't good," he said. "Pakistanis will kill Pakistanis, Muslims will kill Muslims, all for the Americans."

PAKISTANI SKEPTICISM about U.S. intentions runs deep. To try to get a better understanding of its origins, I went to see one of Lahore's most distinguished journalists, Rashed Rahman, who has covered political developments in Pakistan for more than two decades. We sat under an intricately inlaid wooden ceiling in his house in the Cantonment neighborhood in the eastern part of the city, he beside an antique writing desk, and I on an old leather couch. He lit a Dunhill cigarette and shut his eyes for a moment. "Back in the 1950s and '60s," he said, "there were lots of Americans living in Lahore. People wanted American cars and American products. Elvis was huge here. Pakistan was an important American cold war ally. The U.S. supported our military regime and gave us aid and weapons."

His desk lamp went out, suddenly and for no apparent reason. But other lights in the room remained on, so he shrugged and continued. "Pakistanis thought our alliance was meant not just to protect

P. 82 MAP: MIKE REAGAN

Students at Lahore's National College of Arts, founded by Rudyard Kipling's father, John Lockwood Kipling, in 1875, study everything from architecture to advertising. In 2003, Pakistan had 96 colleges and universities.

America from communism, but also to protect Pakistan from India. So when Pakistan and India fought a war in 1965, we expected America's support. Instead, America slapped us with sanctions and cut off our aid, because America had come to see India as a counterweight to China. After the 1965 Pakistan-India war, America acquired the reputation in Pakistan of being a fair-weather friend."

He stubbed out his cigarette. "For over a decade, relations between Pakistan and America kept getting colder," he said. "Gen. Zia-ul-Haq seized power in a coup in 1977. Two years later, the Soviets invaded Afghanistan, bringing them close to the massive oil reserves of the Persian Gulf. President Reagan invited General Zia to the White House and gave him three billion dollars of aid in exchange for Pakistan's support against the Soviets in Afghanistan. Thus began the most disastrous period in Pakistan's history. General Zia's regime set out to Islamize society, and it didn't tolerate any protest or dissent. Laws that ended equal rights for women were passed. Democracy activists were imprisoned. But worst of all, in camps near our border with Afghanistan, the regime worked with America to create a monster called the mujahedin to fight the Soviets." He was referring, of course, to the now infamous guerrilla groups composed of Afghan and Muslim fighters from around the world.

His words reminded me of my days as a schoolboy in Lahore in the 1980s. Religious militants quickly spread from the mujahedin training camps into the rest of country. Guns and hard-eyed men with beards became commonplace in our cities; as a more intolerant and narrow brand of Islam took hold among civic authorities, my fellow teenagers and I would be arrested just for going out on dates. Radio and television began broadcasting news in Arabic, a language spoken by very few Pakistanis. And my father, then a professor of economics at Punjab University, came home with stories about colleagues resigning after being held up at gunpoint for expressing views that were "un-Islamic."

"The face of Pakistani society was destroyed during our alliance with America in the 1980s," Rahman went on. "Then Zia was killed in a plane crash in 1988, and once again the army stepped back," allowing the return of civilian rule. "From 1988 to 1999, elected governments were in power, with Benazir Bhutto and Nawaz Sharif alternating as prime minister. But relations with America deteriorated. In 1989 the Soviets were finally driven from Afghanistan, and the very next year the Americans slapped Pakistan with the first of many sanctions for our nuclear weapons program, which they had turned a blind eye to during the 1980s. In Pakistan,

"We ran into men with beards chanting, 'Death to America,' and they were mobbed by television crews. It was like they were the Beatles."

the perception was that America had flushed us down the toilet because we were no longer needed."

He leaned back in his chair and spread his arms. "Many people here may not be educated, but they know what has happened in the past. So they are skeptical of our current alliance with America." He smiled. "And if you look at the track record, their skepticism is logical."

PAKISTAN'S CURRENT ALLIANCE with the United States began shortly after the terrorist attacks of September 11, 2001. America's secretary of state, Colin Powell, called Pakistan's president, Gen. Pervez Musharraf, and asked for the use of Pakistani bases, airspace and logistical support for America's military campaign in Afghanistan. Musharraf, a Westward-leaning reformist who had seized power in a bloodless coup in 1999, agreed, thereby ending Pakistan's backing of the Taliban. In an address to the nation, the president explained that refusing the U.S. request "may endanger our territorial integrity and our survival," but by supporting the United States "we could emerge as a responsible and honourable nation and all our problems could diminish."

The overwhelming sentiment among Pakistanis, captured in newspaper editorials and television interviews, was that America's war in Afghanistan would bring enormous suffering to fellow Muslims in one of the poorest countries in the world. Religious conservatives were furious: "Any collaboration with the United States is treason," declared a cleric at Islamabad's Lal Masjid mosque in late September 2001. But the massive antigovernment street clashes the naysayers promised failed to materialize. "I was in a peace march," my mother told me. "There were hundreds of us, all women with placards and flowers, and we managed only to attract the attention of one or two foreign journalists. But along the way we ran into a couple dozen men with beards chanting, 'Death to America,' and they were mobbed by international television crews and photographers. It was like they were the Beatles."

After the defeat of the Taliban in 2002, Pakistan's role shifted to hunting down Al Qaeda operatives inside Pakistan itself. More than 500 Al Qaeda and Taliban members were captured by Pakistani soldiers and handed over to the United States. Recognizing Pakistan's contribution, Colin Powell announced in March 2004 that the United States would designate the country a major non-NATO ally. Some Pakistanis, particularly religious conservatives, sympathized with the goals of Al Qaeda and the Taliban and condemned the Pakistani government's continued support of the United States. (*Wall Street Journal* reporter Daniel Pearl was murdered in Karachi in 2002 by terrorists linked to Al Qaeda.) Others, like my parents' night watchman, saw army operations in the border regions as drawing innocent Pakistanis into America's fight against Osama bin Laden and Al Qaeda. America's invasion of Iraq, treatment of prisoners in Abu Ghraib and support for the policies of Israel's prime minister Ariel Sharon have also sparked widespread condemnation in Pakistan.

But although they may not like what America is doing around the world, most Pakistanis are also increasingly fed up with the religious militants in their midst. And for good reason. In recent years, both Sunni and Shiite militants had grown increasingly assertive, and their violence against fel-

Rashed Rahman, a 20-year veteran of some of Pakistan's most influential newspapers and son of a Pakistani Supreme Court justice, is not surprised that some Pakistanis question America's friendship. "If you look at the track record," he says, "their skepticism is logical."

"I had Indian journalists telling me that Lahore is cleaner and more beautiful than any city in India," says newspaper editor Ejaz Haider.

low Pakistanis had spiraled out of control.

Fatima Hassan is a young painter and a member of Pakistan's Shiite minority, which represents about 20 percent of the population and has been the prime target of some Sunni militant groups. Encouraged by recent changes in Pakistan, she decided to return home from the United States. I went to see her in a modern house in Lahore's upscale Defense neighborhood where she was working on a mural of decorative patterns and floral forms. She was wearing track pants and a T-shirt, and her hands and arms were splattered with paint. "We just didn't feel secure," she said of the decade before Musharraf's takeover. "There was a period when they were killing Shiite doctors, trying to scare educated professionals into leaving Pakistan. My brother-in-law was a doctor, and he was threatened. Some men came for him at the house, but he wasn't home. After that, we were petrified whenever he was late coming back from the hospital. He moved into a hostel for a month so they couldn't find him."

She crossed her arms and shook her head. "It was really bad. My brother's friend was killed. Lots of Shiite business leaders got shot. But things have gotten much better under Musharraf. The killing has almost stopped. At night, when I was trying to sleep, I used to be terrified of people coming to the house. It isn't like that anymore. Thank God."

Although sectarian violence persists—particularly in Karachi, wracked by recent bombings—government officials have made stopping it a top priority and begun speaking out against the ideologies that underpin militant movements. "Musharraf said on television that none of these militants should think they have the right to decide what Islam is for the rest of us," Hassan told me. "It was a good thing to hear our president say."

Ejaz Haider, an editor at the Lahore-based *Daily Times*, one of Pakistan's feistiest newspapers, hopes the wildly popular cricket matches between the national teams of India and Pakistan in March will be a turning point for better relations between the two long-antagonistic countries.

NO LESS IMPORTANT than Pakistan's alliance with the United States has been the shift in its relations with India. At independence from Britain in 1947, Pakistan, with a population of 70 million, was partitioned from Hindu-majority India, with its population of 480 million, as a homeland for the region's Muslims. The fate of the predominantly Muslim state of Kashmir (with three million inhabitants) was left undecided, and the two countries have been fighting over it ever since. India controls two-thirds of Kashmir's territory, Pakistan the remainder. But both countries claim Kashmir in its entirety, with India accusing Pakistan of supporting an insurgency by Muslim rebels in the Indian part of Kashmir and Pakistan accusing India of refusing to obey a 1948 U.N. resolution calling for Kashmir's people to decide which country they would rather belong to.

In December 2001, five armed men attacked the Indian Parliament. Claiming that they were Pakistani-backed militants, India moved more than 500,000 troops to the border and deployed its nuclear-capable missiles. Pakistan responded in kind, sending more than 300,000 troops to the border. For 18 months, the two nuclear powers stood poised for war. Lahore is only 20 miles from India, and convoys of trucks rumbled through the city for weeks, delivering supplies to our soldiers massed along the 1,800-mile-long border. Helicopters flew low overhead, artillery fire was exchanged to the north and there were rumors that traffic on the

"Jutt and Bond," a new hit sitcom shot in Lahore, features the misadventures of a rustic Punjabi film hero and a suave British spy. Two actors in the show also sing in EP (Entity Paradigm), a rock band favored by angst-ridden Pakistani teens.

freeway was being stopped so our fighter pilots could practice landing on it in case an Indian nuclear strike destroyed our airfields.

But a growing realization that the consequences of nuclear war were unthinkable, coupled with intense mediation efforts by the United States and other countries, brought Pakistan and India back from the brink in May 2003. On a historic visit by Indian prime minister Atal Behari Vajpayee to Pakistan in January 2004, both he and Pakistani president Musharraf committed themselves to negotiating their differences, including the status of Kashmir. The restoration of commercial air links and an easing of travel restrictions followed soon after.

Suddenly, anxiety gave way to optimism and euphoria. For the first time in more than a decade, India and Pakistan agreed to a full tour of Pakistan by the Indian cricket team, unleashing in March an influx of Indian spectators so huge that Pakistan had to set up special visa camps in India to accommodate demand. Journalists, film stars, celebrities and politicians, including both children of India's late prime minister Rajiv Gandhi and his wife, Sonia, descended on the five match venues of Karachi, Lahore, Rawalpindi, Peshawar and Multan. So did thousands of ordinary cricket fans, swept up in a sport that, for the fifth of humanity that lives in South Asia, has an importance, in American terms, roughly equal to baseball, football and basketball combined.

The series was unlike any sporting event I had ever seen. In stadiums in all five cities, Pakistanis cheered for the Indian team and painted the flags of both countries on their faces; they even launched fireworks to celebrate the Indian victory in the final and decisive one-day match in Lahore. Outside the stadiums, Pakistani shopkeepers gave Indian visitors gifts, and restaurant owners refused to let them pay for their meals. I did a quick survey in Lahore's Main Market among several boys who sell *paan*, a delicacy made of nuts and fragrant syrup wrapped inside a betel leaf. "We were happy for the Indians to be here," one named Saleem said. "Of course we didn't let them pay. We wanted them to know they were our guests. We are fed up with war. We want peace." Loudly, the others agreed.

"The massive outpouring of hospitality and affection was spontaneous and genuine," Ejaz Haider, an editor at the *Daily Times*, an English-language newspaper based in Lahore, told me. "The Indians were taken aback. The image they had of Pakistan was of a violent, conservative state whose people hated them. Instead, they had a reception more generous than anything they could possibly have imagined. I had

Educator Navid Shahzad sees the seeds of social change in the success of Lahore's new, privately funded Beaconhouse National University—which bills itself as Pakistan's first liberal arts college. She says she would welcome American students.

Indian journalists telling me that Lahore is cleaner and more beautiful than any city in India."

For the most part, Pakistanis expected that India's prime minister Vajpayee, who had made peace with Pakistan both a personal mission and a plank in his reelection platform, would continue in power after India's elections, which were held in April and May. But the stunning defeat of Vajpayee's Bharatiya Janata Party by the Congress Party, led by Italian-born Sonia Gandhi, created uncertainty about the future of India-Pakistan relations. While the Pakistan government welcomed comments by Gandhi and incoming prime minister Manmohan Singh that the peace process would continue, many here speculate that it will suffer, with the *Daily Times* commenting that "there may be some unexpected hurdles ahead." But others pointed out that Gandhi's son and daughter, Rahul, 34, and Priyanka, 33, had demonstrated their support for peace by coming to Karachi for the cricket finals, where they had clearly been thrilled by the reception they received.

WHAT NO DOUBT IMPRESSED the Indian visitors, and what impresses even Pakistanis returning after just a few years abroad, is a nation emerging from economic stagnation and years of inaction against the domestic terrorism of religious militants. The country has won praise from the World Bank and International Monetary Fund for its economic turnaround. Pakistan's stock market was among the world's top performing last year, up 66 percent, and real estate values are soaring. Although still generated from a tiny base, tax revenues have jumped 40 percent in the past four years, enabling the government to spend more on development, especially on education—a critical investment for Pakistanis under 19, roughly half of its current population.

A good example of this vibrancy is the creation of many new private educational institutions. Navid Shahzad, a literature professor and education consultant, helped found Beaconhouse National University (BNU) in Lahore. I went to see her in her office, walking past bulletin boards plastered with announcements for student plays and concerts and art projects. "Three things happened in higher education," she told me. "First, the government finally understood that it did not have the resources to meet the education needs of the population by itself." She raised two fingers. "Second, they realized that the crumbling public education system—and the religious *madrassas* [schools] that stepped in to fill the gaps—contributed to the problems of unemployment and militancy in our society." She raised a third finger. "Finally, they saw that some private universities in Pakistan were providing qualitatively superior edu-

"Music, television sitcoms, dramatic serials—everything is exploding right now," says student Zahra Khan. "Young people are expressing themselves."

cation in a way which was financially self-sustaining."

A group of students with backpacks slung over their T-shirts walked by outside her glass door. "So," she continued, "after years of being a public-sector fiefdom, things are finally changing. In the last year, seven or eight private universities were granted charters in our province alone. BNU opened five months ago, and we now have 109 students, including 16 international students. We plan to have 2,000 within five years. Our nonprofit foundation already has an endowment which allows us to give over 30 percent of our students' financial aid. And even though Pakistan is supposed to be a dangerous place, I've had no difficulty recruiting faculty from Britain, South Africa, Germany and the United States. People hear about what we're doing, and they're excited to come and teach here."

And what is BNU teaching? She smiled. "The demand for people in media, culture and the arts is booming," she said. "It's driven by the proliferation of television channels, and now also of radio and newspapers, as well as by a growing middle class. BNU is training people to meet that demand. Many of our programs are the first of their kinds in Pakistan: photojournalism, for example. At public universities they stopped teaching sculpture because of the Islamic injunction against idolatry. But here, we teach sculpture. And we teach many disciplines that marry art and technology and make new things possible, like sound engineering and computer visual effects."

Down the hall from Shahzad, in an office shared by four female faculty members from three different countries, I met Zahra Khan, a recent graduate of Mount Holyoke College in South Hadley, Massachusetts, who has starred in a popular television sitcom here. She was wearing glasses and a diamond stud in her nose and sat at her desk under a poster for the Quentin Tarantino film *Pulp Fiction*. "Music, television sitcoms, dramatic serials—everything is exploding right now," she said. "Young people are expressing themselves, and powerful modern forces are finally taking on the old conservative ones. It's really exciting to be part of it."

OF COURSE, few in Lahore would argue that Pakistan's long-overdue embrace of television is a panacea for its deep-rooted problems, as Ahmed Rashid, the internationally best-selling author of *Taliban* and *Jihad*, is only too happy to point out. Sporting both a beard and a pair of shorts, an unusual combination here, Rashid led me into his study, a single room entirely lined with bookshelves and separated from his house in the Cantonment by a walkway shaded by hanging vines. His electricity and phone service were both out.

"The problem Pakistan faces right now," he told me, folding his legs underneath him, "is that our government has a two-track policy, a kind of institutionalized schizophrenia. Take the issue of militants," he said, referring to the thousands of foreigners and Pakistanis engaged in an armed struggle against the West, against India in Kashmir, or against those who practice a different form of Islam. "Musharraf has promised to clamp down on all militants operating in Pakistan. But in reality, two different things are going on. The army is trying to eliminate Al Qaeda, foreign militants who are in Pakistan to fight a global jihad against America. But the army is not trying to eliminate Pakistani militants who want to fight India in Kashmir. The army

"The [religious] fundamentalists don't have mass support, but they're very vocal. It's time for the rest of civil society—for businesspeople, traders, teachers, professionals, intellectuals—to find its voice," argues *Far Eastern Economic Review* correspondent and author Ahmed Rashid.

In a thrumming fusion of traditional Pakistani and rock music, Pappu Sain, a revered player of the *dhol* drum, jams with rock drummer Fahad Shahzad at the Baba Shah Jamal shrine at a Sufi Muslim festival. Sufis are known for ecstatic mysticism.

wants these domestic Kashmiri militant groups to pause their activities, but it doesn't want to dismantle them yet in case negotiations with India fail. Unfortunately, Al Qaeda and our domestic militant groups are deeply embedded in each other. So the army's policies are pushing in two opposite directions at the same time."

The lights came back on, and Rashid got up to send a fax, then gave up in frustration because the phone was still out. "Many Pakistani militants think Musharraf is a long-term threat," he went on. "Especially the sectarian groups, the Sunni extremists who are instigating violence against Shiites. They've been fingered twice for trying to assassinate Musharraf," in two attacks 11 days apart in December 2003. "The army is trying to distinguish these sectarian groups from the ones fighting for Kashmir and go after them. But because all these groups—Al Qaeda, the sectarian groups and the groups fighting in Kashmir—are interrelated, it's hard to do."

He poured me a cup of tea. "It's the same situation with Abdul Qadeer Khan and this entire nuclear proliferation scandal," he told me, referring to the mastermind of Pakistan's nuclear program who, in January, admitted selling nuclear secrets to Libya, North Korea and Iran. "Right after September 11, we should have said, privately perhaps, to the Americans and the International Atomic Energy Agency, 'Look, we want to come clean. We are guilty of proliferation. But that's over now, and here's how we're going to assure you that those days are finished.' The army should have taken responsibility. Instead, the army waited until we got caught with our pants down, with Libya and Iran telling the world that we helped them, and then the army set up A. Q. Khan as a scapegoat to limit the damage. So now we're in the same position of cooperating with the Americans and the IAEA, but only after destroying our own credibility." In particular, Musharraf's decision to pardon the once hugely popular Khan after his confession was widely seen as an attempt to limit the damage of the scandal.

Rashid also criticizes the undemocratic nature of Musharraf's government and its antagonism toward the parties of former prime ministers Benazir Bhutto and Nawaz Sharif. Rashid's concerns would spill into the news a week later, in May, when Nawaz Sharif's brother, Shahbaz, attempted to return from exile abroad and was immediately deported by armed security personnel.

Rashid checked his fax machine again. It was still not working, so he called out to his driver and asked him to take the fax to the bazaar to be sent off. "At the end of the day," he said, after the driver had left, "the schizophrenic nature

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The good life beckons from billboards in Lahore's old city. Roughly half of all Pakistanis are under 19, and while economic growth has been robust in recent years, so has the growth in the country's population, generating new pressures.

of our government—hunting some militants but protecting others, admitting proliferation but passing the blame, liberalizing the economy but destroying the two mainstream political parties—is tied up with Pakistan's search for its own identity. We need to decide which way we want to go. The fundamentalists don't have mass support, but they're very vocal. It's time for the rest of civil society—for businesspeople, traders, teachers, professionals, intellectuals—to find its voice. There is mass support for peace with India, and economic development, and an end to militancy. But the question is: Are we at that tipping point where mass support can finally change our policies?"

AFTER MY MEETING WITH RASHID, I decided not to take the most direct route home. Instead, I drove down Mall Road, with its old, shady trees, many planted by the British before Pakistan's independence. The divider was lush green, with thick beds of orange flowers on long, elegant stems. I passed a white mosque near my grandfather's former house. The mosque had been small when I was a child, barely more than a room. Now its minarets and glossy green dome jutted into the sky, festooned with flags pulled taut by a stiff breeze—signs, perhaps, that a religious assembly would soon take place.

I turned left along the canal. Weeping willows along its banks dragged the tips of their branches through the water. The road had been improved lately, modern underpasses transforming it into a quick-moving artery for traffic through the city. At intersections, billboards with attractive young women and men advertised clothes, cars, credit cards, ice cream. On one billboard was a splattering of dark paint where someone with conservative views and good aim had tried to obliterate a particularly fetching female face.

I remembered my mother telling me about a local production of *The Phantom of the Opera* she had seen. A woman wearing Western-style trousers and a shirt, but also a head scarf, had introduced the show. "At first," my mother told me, "I thought it was silly. Why bother with a conservative head scarf if you are going to put on those tightfitting clothes? But then I listened to her speak, and she was confident and spoke well. So I thought, if it makes her feel more comfortable to wear a head scarf, then fine. The important thing is that she was well educated and free to speak her mind."

As the city of Lahore, and Pakistan as a whole, leaves behind two decades of repression and violent intimidation by religious militants, more and more people are finding their voices. And much of what they have to say reflects a longing for peace and progress. Even if overshadowed in the news by the explosions of bombs, Pakistan's other explosions—of music, media and mass culture—are powerful and growing sources of hope.

The Rocky Road to Revolution

While most members of Congress sought a negotiated settlement with England, independence advocates bided their time

BY JOHN FERLING

We hold these truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain unalienable Rights, that among these are Life, Liberty and the pursuit of Happiness—That to secure these rights, Governments are instituted among Men, deriving their just powers from the consent of the governed . . .

LABORING AT HIS DESK in the midst of a Philadelphia heat wave in June 1776, Thomas Jefferson hastened to complete a pressing assignment. A Congressional committee, recognizing his "happy talent for composition," had given the 33-year-old Jefferson responsibility for drafting a declaration of independence, a document that Congress needed almost immediately. Jefferson, one of Virginia's seven delegates to the Second Continental Congress, worked in his two-room apartment on the second floor of a tradesman's house at Market and Seventh streets, a heavily trafficked corner. He rose before sunrise to write and, after the day's long Congressional session, he returned to his lodging to take up his pen again at night. Toward the end of his life, Jefferson would say that his purpose had been to "place before mankind the common sense of the subject." Congress, he recalled, required an "expression of the American mind."

Jefferson well knew that America was at a defining moment in its history. Independence would sever ties with a long colonial past and propel the 13 states—and the new American nation to which they would belong—into an extremely uncertain future. Jefferson also knew that Congress wanted the declaration completed by July 1, less than three weeks after he was given the assignment.

No one appreciated better than he the irony in the sudden desire for haste. Jefferson had been prepared to declare independence perhaps as much as a year earlier, from the moment that war against the mother country erupted on April 19, 1775. Yet Congress had refused. In the 14 months since American blood had been shed at Lexington and Concord, American soldiers had also died at Bunker Hill, in the siege of Boston, and during an ill-fated invasion of Canada. In addition, the Royal Navy had bombarded and burned American towns, and the colonists' commerce had been nearly shut down by a British blockade. Still, Congress had not declared independence.

But not even Jefferson, passionate advocate of independence that he was, fully grasped the importance of the document he was preparing. Nor did his colleague, John Adams of Massachusetts, who had masterminded the arduous struggle within Congress to declare independence. Focused single-mindedly on that contentious undertaking, Adams regarded the actual statement itself as a mere formality—he would call it "a theatrical show"—a necessary instrument of propaganda. Jefferson, for his part, said little about his accomplishment. Not long after his work was completed, he would depart Philadelphia to return to his responsibilities in the Virginia legislature. Still, he was more than mildly vexed that Congress had made revisions—or "mutilations," as he put it—to

Thomas Jefferson (opposite, in an 1898 painting by Howard Pyle) drafted the Declaration at his Philadelphia lodging (above, as it appeared in 1885). Jefferson professed himself fully prepared to "lend my hand to sink the whole Island [of Britain] in the ocean."

JAMES EARLE MCCLEES / ART RESOURCE, NEW YORK; P.97 HOWARD PLYE COLLECTION / BRIDGEMAN ART LIBRARY

the language of his original draft. Historians now agree that Congress' alterations and excisions enhanced the Declaration's power. Jefferson's magisterial opening passage, and indeed, much of his original language, actually survived intact.

Today, the passage of time has dulled our memory of the extent to which many Americans, including a majority in the Continental Congress, were, for a very long period, reluctant to break ties completely and irrevocably with Britain. The creation of the document we have come to regard as the seminal expression of revolutionary ardor was by no means inevitable. More than two-and-a-quarter centuries after the Declaration was signed, this eloquent assertion of individual rights, reinstalled last September in a state-of-the-art glass encasement at the National Archives in Washington, D.C., can be assessed in all of its complexity—as the product of the protracted political debate that preceded its formulation.

BY THE SUMMER of 1776, the patience of many congressmen had been sorely tried by bitter wrangling over the question of whether or not to declare independence. Many of the legislators thought it nonsensical to fight a war for any purpose other than independence, yet others disagreed. For month after bloody month Congress had sat on its hands, prompting John Adams to exclaim early in 1776 that America was caught "between Hawk and Buzzard," fighting a war it could not win unless it declared independence from Britain, thereby prompting England's enemies, most prominently France, to aid in the struggle.

America's war with the mother country had commenced when a British army of nearly 900 men, acting on orders from London, had marched from Boston to Concord, intending to destroy a colonial arsenal and, if possible, capture ringleaders John Hancock and Samuel Adams. The Second Continental Congress, which assembled in Philadelphia just three weeks later, had barely been gaveled to order when John Rutledge of South Carolina, a 35-year-old lawyer from Charleston, raised the critical question: "Do We aim at independancy? or do We only ask for a Restoration of Rights & putting of Us on Our old footing [as subjects of the crown]?" It would take Congress 14 months to answer that question.

Congress quickly divided into two factions. One felt that the British actions at Lexington and Concord in April required nothing less than a clean break from the motherland; they believed colonists would always be second-class citizens in the British Empire. This faction would have declared independence in May or June 1775. But a second faction, which comprised a substantial majority in Congress, yearned to be reconciled with Britain. These delegates believed in waging war only to compel London to accept America's terms—Rutledge's "old footing"—to return to the way things were before Parliament tried to tax Americans and claim unlimited jurisdiction over them.

Opposition to Parliament had been growing since it enacted the first American tax, the Stamp Act of 1765. At the First Continental Congress, which met in Philadelphia in September 1774, some delegates wanted to force repeal of it and other repressive measures through a trade embargo. A more conservative faction had pushed for a compromise to provide American representation in Parliament. In the end, Congress adopted the trade boycott, and war had come. "Nothing," wrote John Adams, "but Fortitude, Vigour, and Perseverance can save Us."

Most who had attended the First Continental Congress now sat in the Second, where they were joined by several fresh faces. For instance, Hancock, who had escaped capture at Lexington thanks to Paul Revere's timely warning, was now a member of the Massachusetts delegation. Sixty-nine-year-old Benjamin Franklin, who had just returned to Philadelphia after a decade in London, had been named a delegate from Pennsylvania. Gone were those from the First Continental Congress who refused to countenance a war against Britain, prompting Richard Henry Lee of Virginia to observe that a "perfect unanimity" existed in the Second Continental Congress, at least on the war issue.

Historian JOHN FERLING *is the author of* A Leap in the Dark: The Struggle to Create the American Republic.

Reconciliationists such as John Rutledge (far left) opposed secessionists (including, from left, John Hancock, Richard Henry Lee, John Adams). Said Adams: "There are 600,000 men in [the colonies] . . . it will be very difficult to chichane them out of their liberties."

BRIDGEMAN ART LIBRARY, STAPLETON COLLECTION (2); NATIONAL PORTRAIT GALLERY, SMITHSONIAN INSTITUTION; NEW YORK HISTORICAL SOCIETY

John Adams concurred that a "military Spirit" that was "truly amazing" had seized the land. Militiamen were "as thick as Bees," he said, marching and drilling everywhere, including in the steamy streets outside the Pennsylvania State House where Congress met. His cousin, Samuel Adams, believed an equally militant spirit gripped Congress and that every member was committed to "the Defence and Support of American Liberty." The Adams cousins soon discovered, however, that while all in Congress supported the war, sentiment for severing ties with Britain was strong only in New England and Virginia. Reconciliationists prevailed everywhere else.

John Adams counseled patience. "We must Suffer People to take their own Way," he asserted in June 1775, even though that path might not be the "Speedyest and Surest." He understood that to push too hard for independence was to risk driving conservative Americans back into Britain's arms. Thus, for most of 1775, the pro-independence faction never spoke openly of a break with Britain. Adams likened America to that of "a large Fleet sailing under Convoy. The fleetest Sailors must wait for the dullest and slowest." For the foreseeable future, he lamented, "Progress must be slow."

But Adams was confident that those who favored reconciliation would be driven inexorably toward independence. In time, he believed, they would discover that London would never give in to America's demands. Furthermore, he expected that war would transform the colonists' deep-seated love for Britain into enmity, necessitating a final break.

Reconciliationists were strongest in the Middle Atlantic colonies (New York, New Jersey, Pennsylvania, Maryland and Delaware) and in South Carolina, all of which had long since been drawn into the economic web of the Atlantic world. Before the war, the products of the backcountry—furs, hides and lumber—as well as grain, had moved through New York and Philadelphia to markets in the Caribbean and England. Charleston exported indigo and rice. In return, English-manufactured goods entered the colonies through these ports. Business had flourished during most of the 18th century; in recent years Philadelphia's merchants had routinely enjoyed annual profits of more than 10 percent.

The great merchants in Philadelphia and New York, who constituted a powerful political force, had other compelling reasons for remaining within the empire. Many relied upon credit supplied by English bankers. The protection afforded to transatlantic trade by the Royal Navy minimized insurance and other overhead costs. Independence, Philadelphia merchant Thomas Clifford asserted in 1775, would "assuredly prove unprofitable." The "advantages of security and stability," said another, "lie with . . . remaining in the empire."

And there was fear of the unknown. Some in Congress spoke of a break with Britain as a "leap in the dark," while others likened it to being cast adrift on "an Unknown Ocean." To be sure, many things *could* miscarry should America try to go it alone. After all, its army was composed of untried soldiers led, for the most part, by inexperienced officers. It possessed neither a navy nor allies and lacked the funds to wage a lengthy conflict. The most immediate danger was that the fledgling nation might lose a war for independence. Such a defeat could unleash a series of dire consequences that, the reconciliationists believed, might be avoided only if the colonies, even in the midst of war, were to negotiate a settlement *before* breaking absolutely with Britain. The reconciliationists held that it was still possible to reach a middle ground; this view seemed, to men such as John Adams, a naive delusion. Finally, the anti-independence faction argued, losing the war might well result in retaliation, including the loss of liberties the colonists had long enjoyed.

Even victory could have drawbacks. Many felt independence could be won only with foreign assistance, which raised the specter of American dependence on a European superpower, most likely autocratic and Roman Catholic France. But Adams believed that fear of anarchy accounted for most conservative opposition to independence. More than anything, said Adams, it rendered "Independency . . . an Hobgoblin, of so frightfull Mein" to the reconciliationists.

Some advocates of independence (including, from left, George Washington; Thomas Paine; Roger Sherman) were deeply committed to separation. Robert Livingston (far right), a pragmatist, believed in "swimming with a Stream which it is impossible to stem."

RÉUNION DES MUSÉES NATIONAUX / ART RESOURCE; CORBIS; NATIONAL PORTRAIT GALLERY, S.I. / ART RESOURCE, N.Y.; NEW YORK HISTORICAL SOCIETY / ART RESOURCE

PENNSYLVANIA'S JOHN DICKINSON soon emerged as the leader of those who sought rapprochement with Britain. Dickinson, who was 43 in 1775, had been raised on plantations in Maryland and Delaware. One of the few supporters of the war to have actually lived in England, where he had gone to study law, in London, he had not been impressed by what he found there. The English, he concluded, were intemperate and immoral; their political system was hopelessly corrupt and run by diabolical mediocrities. Returning to Philadelphia to practice law in 1757, he was soon drawn to politics.

Tall and thin, Dickinson was urbane, articulate and somewhat prickly. A patrician accustomed to having his way, he could be quick-tempered with those who opposed him. He had once brawled with a political adversary and challenged him to a duel. Early in the Second Continental Congress, following an incendiary speech by Adams, Dickinson pursued him into the State House yard and, in a venomous outburst, as recounted by Adams, demanded: "What is the reason, Mr. Adams, that you New Englandmen oppose our Measures of Reconciliation. . . . Look Ye," he threatened, "If you dont concur with Us, in our pacific System, I, and a Number of Us, will break off from you . . . and We will carry on the Opposition by ourselves in our own Way." Adams was infuriated by Dickinson's invective: the two never spoke again.

Patrician and combative, John Dickinson (in a 1770 portrait) fiercely opposed a total break with Britain, predicting that if it came, Americans would "wade thro Seas of Blood."

Dickinson had a distinguished record. In 1765 he had served in the Stamp Act Congress convened to protest that measure. Two years later, he published his cogent and illuminating *Letters from a Farmer in Pennsylvania*, America's most popular political tract before 1776, which assumed that Parliament, though possessed of the right to regulate trade, lacked authority to tax the colonists. That was the very stand taken by 1774's First Continental Congress, and a constitutional settlement along those lines—not independence—was what the reconciliationists hoped to achieve through war. Dickinson charged that London had launched an "inexpressibly cruel War." Its "Sword is opening our Veins," he said, compelling Americans to fight for their freedom.

But he also warned that a war for independence would be interminable. British prime minister Lord Frederick North had pledged an implacable fight to maintain "every Advantage" that Britain derived from its control of the colonies. Before any war for independence ended, Dickinson prophesied, Americans would have "tasted deeply of that bitter Cup called the Fortunes of War." Not only would they have to "wade thro Seas of Blood," but in due course, hostilities would bring on massive unemployment within the maritime trades, heinous cruelties along the frontier, slave insurrections in the South and the relentless spread of disease from armies to civilians. And even in the unlikely event independence was achieved, Dickinson argued, yet another catastrophe might well lie in store: France and Spain would destroy the infant United States. In contrast, a war for reconciliation would be short-lived. Confronted with "a bloody & tedious Contest attended with Injury to their Trade," Lord North's government would collapse. Its successor would be compelled to accept Congress' terms: American "Dependence & Subordination" on the Crown, but with it a recognition from London that Parliament's only power over the colonies was the regulation of American trade.

Given Dickinson's position as a longtime foe of Parliamentary taxation, it was only to be expected that he would emerge as a leader in Congress. Adams' rise, however, was a different story. When he became leader of the independence forces—what one contemporary observer, Dr. Benjamin Rush, described as the "first man in the House"—many were caught by surprise. Before his election to Congress in 1774, Adams was largely inexperienced in public life. He had served only one term in the Massachusetts assembly and had not even headed the Massachusetts delegation at the First Congress—cousin Sam had assumed that responsibility.

Forty years old in 1775, John Adams had grown up on a small farm just south of Boston, where his father moonlighted as a shoemaker to earn the money to send his oldest son to Harvard. Like Dickinson, Adams had practiced law, and also like him, had advanced rapidly. Within a dozen years of opening his law office, Adams maintained the heaviest caseload of any attorney in Boston. Unlike Dickinson, Adams was

HISTORICAL SOCIETY OF PENNSYLVANIA / BRIDGEMAN ART LIBRARY

initially wary of the American protest against British policies, believing that the ministry had simply erred in its actions and might be expected to mend its ways. He had been converted to open support of the popular cause only in 1773.

Adams came to keenly desire a leadership role, but feared that his physical limitations—he was portly and balding—and irascible manner would frustrate his ambitions. Furthermore, he was no jovial backslapper. Gruff and argumentative, he was maladroit when it came to talking about what he regarded as the favorite topics of men: dogs, horses and women. Nevertheless, those who penetrated his churlish exterior discovered a good-natured, self-effacing and exceptionally bright individual. And he possessed the skills needed to be an effective legislator. He was tireless, a skilled debater, an incisive, if not flamboyant, orator and a trenchant thinker. He quickly won a reputation as the Congressional authority on diplomacy and political theory. His colleagues found him to be unfailingly well prepared, prudent, honest and trustworthy—in short, just the man to follow in this high-stakes endeavor.

THE FIRST ISSUE TO TRULY DIVIDE the Second Continental Congress arose early on. In May 1775, as it considered the creation of the Continental Army, Dickinson insisted on petitioning the king with what he characterized as a "Measure of Peace." Adams privately branded it a "Measure of Imbecility" and raged that some delegates, at least those from the mercantile colonies of New York and Pennsylvania, were "selfish and avaricious." For those congressman, he charged, "a ship [was] dearer than" the lives of Continental soldiers. In October 1774, the First Continental Congress had petitioned the monarch; Adams feared that to do so again was to risk appearing weak. Franklin concurred. "It is a true old saying," he remarked, "that *make yourselves sheep and the wolves will eat you*."

Nevertheless, the independence faction wanted no confrontation with Dickinson's at this crucial juncture of the war, and the Olive Branch Petition, as the peace measure was known, was approved, though only after a contentious debate over its wording. Richard Penn, a former governor of Pennsylvania, carried it to England. Franklin advised a London friend, a director of the Bank of England, that this was Britain's last hope for preventing "a total Separation" by the colonies. To another friend in England he wrote: "If you flatter yourselves with beating us into submission, you know neither the [American] people nor the country."

At about the same time, Congress created a committee to draft a "Declaration of the Causes and Necessity of Taking Up Arms." Among others, it appointed Jefferson, who had only recently joined the Virginia delegation, and Dickinson to the committee. Jefferson, who enjoyed a reputation as a facile writer, was asked to draft the document. With views similar to Adams', he produced a paper that reiterated the charges of British tyranny and harshly cataloged the ministry's "avowed course of murder and devastation." Dickinson was appalled. He feared that such a provocative statement would make a measured response to the Olive Branch Petition impossible. He demanded, and obtained, an opportunity to tone down Jefferson's draft. Dickinson's softer proclamation stipulated that "we mean not to dissolve that Union" with Britain. It was adopted in July 1775.

The reconciliationists held sway through the summer of 1775, but as hostilities unfolded and Congress was required to prosecute the war, their hold gradually weakened. By the end of 1775, Congress had issued a Continental currency, drawn up regulations applying to all militia, created a Continental post office and taken control of Indian relations. Feeling "a little of the Seafaring Inclination," as Adams put it, Congress also established an American navy and two battalions of marines. It regulated American trade, assumed responsibility for the enforcement of the embargo of British commerce, attempted to resolve intercolonial territorial disputes and even acted as the national judiciary, hearing appeals from state courts in cases that involved the seizure of British ships.

Congress additionally began to conduct foreign policy. It created a Secret Committee to contract for arms imports and a Committee of Secret Correspondence to establish contact with "our friends" throughout the world. In March 1776, Congress dispatched one of its own, Silas Deane of Con-

John Adams outflanked his reconciliationist opponents. By the summer of 1776, he reported, his adversaries had lost the debate: "All [are] fallen," he said, "like Grass before the Scythe."

MUSEUM OF FINE ARTS, BOSTON, MASSACHUSETTS / BRIDGEMAN ART LIBRARY

necticut, to Versailles to pursue talks with the French government. In fact, if not in name, the Second Continental Congress had become the government of an autonomous union of American provinces.

Back in November 1775, word had arrived that George III had branded the colonists rebels and traitors and had contemptuously refused to accept the Olive Branch Petition. Two months later, the full text of the king's speech to Parliament reached Philadelphia. In it the monarch unsparingly assailed those colonists who supported hostilities, charging that they were part of a "wicked" and "desperate conspiracy." In addition, he revealed his intention to obtain foreign mercenaries to help suppress the rebellion. Hancock, by now president of Congress, wryly remarked that the Crown's actions "don't look like a Reconciliation." John Adams gleefully noted that Dickinson "sinks . . . in the public opinion."

Indeed, evidence was mounting that the mood of the country was changing. Already, by the summer of 1775, when Congress began authorizing the colonies to create their own governments, supplanting those chartered by the Crown, it had taken its most radical step since the creation of the army. Dickinson and his principal ally, James Wilson of Pennsylvania, fought back. In January 1776 they proposed that Congress adopt yet another "humble & dutiful Petition" disclaiming independence to the king. This time Congress refused. Some members, such as Samuel Adams, had begun to see the reconciliationists as "Tools of a Tyrant."

Yet Congress still remained unwilling to declare independence. Had a vote been taken in early January 1776, the measure would likely have failed. On the 17th of that month, however, word reached Philadelphia of a devastating military setback, the young army's first. The news was instrumental in propelling Congress on its final journey toward independence.

Ben Franklin (left, with John Adams, center, and Jefferson) helped polish Jefferson's draft, written in perhaps two days. "We were all in haste," Adams recalled. "Congress was impatient."

LIBRARY OF CONGRESS

AS WASHINGTON'S ARMY besieged British regulars in Boston during the summer of 1775, Congress had authorized an invasion of lightly defended Canada in order to defeat British forces there. It was a troubled campaign from the start, and on December 31 disaster struck. An attack on Quebec was repulsed; 500 men, half of America's invading army, were lost: 100 were killed or wounded and another 400 taken prisoner. So much for any expectation of a short-lived war. Overnight, many in Congress came to believe that no victory would ever be possible without foreign assistance; all understood that no aid from any outside power would be forthcoming so long as America fought for the "purpose of repairing the breach [with Britain]," as Thomas Paine had observed in his incendiary pamphlet *Common Sense,* published in January 1776.

Soon after the debacle at Quebec, John Adams observed that there now existed "no Prospect, no Probability, no Possibility" of reconciliation. Late in February came still more stunning news. Congress learned that Parliament had enacted the American Prohibitory Act, shutting down all trade with the colonies and permitting seizure of colonial vessels. John Adams called the law "a Gift" to the pro-independence party. Virginia's Richard Henry Lee concurred, saying that it severed the last ties with the mother country. It was "curious," he stated, that Congress yet hesitated to declare independence when London had already "put the two Countries asunder."

As spring foliage burst forth in Philadelphia in 1776, ever larger numbers of Americans were coming round to independence. The "Sighing after Independence" in Massachusetts, said James Warren, speaker of the colony's House of Representatives, had become nearly "Universal." By mid-May every Southern colony had authorized its delegates to vote for breaking off ties with Britain.

Within Congress, emotions ran high. "I cannot conceive what good Reason can be assignd against [independence]," Samuel Adams railed in mid-April. He exclaimed that the "Salvation of the Country depends on its being done speedily. I am anxious to have it done." John Adams maintained that had independence been declared months earlier, America's armies would already possess French arms. Elbridge Gerry, a Massachusetts delegate, complained that "timid Minds are terrified at the Word Independency," while Franklin deplored those who clutched at the "vain Hope of

Reconciliation." As for General Washington, he said he believed that Congress had "long, & ardently sought for reconciliation upon honourable terms," only to be rebuffed at every turn. He had long been of the opinion that "all Connexions with a State So unjust" should be broken.

Still, the reconciliationists held out, encouraged by a passage in the Prohibitory Act that authorized the monarch to appoint commissioners to grant pardons and to receive the grievances of colonists. Dickinson and his followers viewed the appointees as peace commissioners and held out hope that they were being sent to resolve differences. Many in Congress refused to budge until they learned just what the envoys had to offer. John Adams disdainfully predicted that this was "a Bubble" and a misbegotten "Messiah that will never come." Samuel Adams said that he was "disgusted" both with the "King & his Junto," who spoke of peace while making "the most destructive Plans," and with the reconciliationists who were willing to be "Slaves" to "a Nation so lost to all Sense of Liberty and Virtue."

In May, as American newspapers published the text of Britain's treaties with several German principalities, authorizing the hiring of mercenaries, outrage toward the Crown skyrocketed. Many were now convinced, as Richard Henry Lee said, that the action proved Britain was bent "upon the absolute conquest and subduction of N. America." Nearly simultaneously, word arrived of yet more calamities in Canada. Congress had dispatched reinforcements following the failed attack in December, but smallpox and desertions soon thinned their ranks. With the arrival of British reinforcements in May, the American army commenced a long, slow retreat that lasted until mid-June. Now, said Lee, it "is not choice then but necessity that calls for Independence, as the only means by which a foreign Alliance can be obtained."

One final matter helped the slowest sailors in Congress catch up with the swiftest. Month after month had passed with no sign of the so-called peace commissioners. Then, in the spring, it was learned that, although some commissioners had been named, they had been ordered not to treat with Congress. That proved a final blow; all but the most ardent reconciliationists were persuaded that the king's envoys were coming for the sole purpose of dividing American opinion and derailing the war effort.

With the tide so turned, in mid-May, Congress declared that "every kind of authority under the . . . Crown should be totally suppressed" and instructed each colony to adopt a new government suitable for providing for the "happiness and safety of their constituents and . . . America in general." John Adams, who called this the "last Step," believed this was tan-

Ultimately, the delegates (in a c. 1800 painting) voted unanimously for independence. Wrote John Adams: "The Second Day of July 1776 will be the most memorable . . . in the History of America."

ATWATER KENT MUSEUM OF PHILADELPHIA / BRIDGEMAN ART LIBRARY

tamount to a declaration of independence. Even Maryland's Thomas Stone, a foe of separation, disconsolately allowed that the "Dye is cast. The fatal Stab is given to any future Connection between this Country & Britain." Only a formal declaration of independence remained, and that could not now be long in coming.

On June 7, three weeks after Congress urged changes in the provincial governments, Lee introduced a motion for independence: "*Resolved*, That these United Colonies are, and of right ought to be, free and independent States, that they are absolved from all allegiance to the British Crown, and that all political connection between them and the State of Great Britain is, and ought to be, totally dissolved."

Congress rancorously debated Lee's motion for two days. Several reconciliationists from the Middle-Atlantic colonies made their final stand, even threatening to "secede from the Union" if Congress declared independence. But their threats and recriminations no longer frightened the majority, including Oliver Wolcott of Connecticut, who recognized that America was in the "Midst of a great Revolution . . . leading to the lasting Independancy of these Colonies." On June 11, Congress created a five-member committee to prepare a statement on independence. Adams, Franklin, Jefferson, Roger Sherman of Connecticut and Robert Livingston of New York were given until July 1 to complete their work. Once again it was to Jefferson that a panel turned, this time for the fateful task of drafting the declaration.

Jefferson and his colleagues beat the deadline by two days, submitting on June 28 a document that explained and defended independence. By July 1, the final consideration of Lee's motion to declare independence was taken up. That day's session, John Adams told a friend in a letter written early that morning, would see "the greatest Debate of all." With the outcome no longer in doubt, he said that he prayed for "the new born Republic" about to be created.

When debate began midmorning on that hot, steamy Monday, Dickinson was first on his feet to make one last speech against independence. Speaking emotionally for perhaps as much as two hours in the stifling heat of the closed room (windows were kept shut to keep spies from listening in), Dickinson reviewed the familiar arguments: America could not win the war; at best, it could fight Britain to a stalemate, and deadlocked wars often ended in partition treaties in which territory is divided among the belligerents; therefore, after all the killing, some colonies would remain part of the British Empire, while others would pass under the control of France or Spain.

It was John Adams—soon to be christened "the Atlas of Independence" by New Jersey's Richard Stockton—who rose to

At the National Archives in Washington, D.C., one million visitors annually view the Declaration of Independence (now in a state-of-the-art, climate-controlled encasement installed last year).

CAMERON DAVIDSON

FOUND: GLADIATOR'S ORIGINAL PAYCHECK

HOLD THE GLORY OF ROME IN THE PALM OF YOUR HANDS

The old saying "don't judge a book by its cover" is more than just idle advice. It also led to a truly amazing treasure discovery that can put the glory and splendor of ancient Rome into the palm of your hands! During a recent construction project in northern Turkey, a dirt-encrusted earthen jar was uncovered. The curious worker was about to throw the filthy thing away as nothing more than trash. But then something made him tug on the old cloth visible through the cracks. To his surprise, a pile of coins spilled out. His discovery is now your opportunity because these weren't just any coins—they were scarce historic Roman Commemorative coins that had been buried 1,670 years ago!

COMMEMORATING THE FOUNDING OF ROME

Just who buried these coins is still a mystery. It could have been a Roman soldier, a merchant or even a barbarian chieftain who had been given the coins as a bribe not to wage war on Rome. What is known is that these coins were first issued in 330 AD by Emperor Constantine the Great. They were struck to honor the city of Rome as the cultural center of the Roman Empire in what has to be one of the most successful marketing campaigns in history. Constantine used these coins as an effective public relations ploy as he moved the capital from Rome to his new city, aptly named Constantinople. To honor the founding of his new capital—and to soothe the hearts of Roman identity—these *"Urbs Roma"* (City of Rome) bronze coins were handed out during the consecration ceremony for Constantinople on May 11, 330. Some experts of ancient coins agree that no other Roman coin was ever struck for such a specific event making the City of Rome coin ***the FIRST Commemorative Coin of the Roman Empire!***

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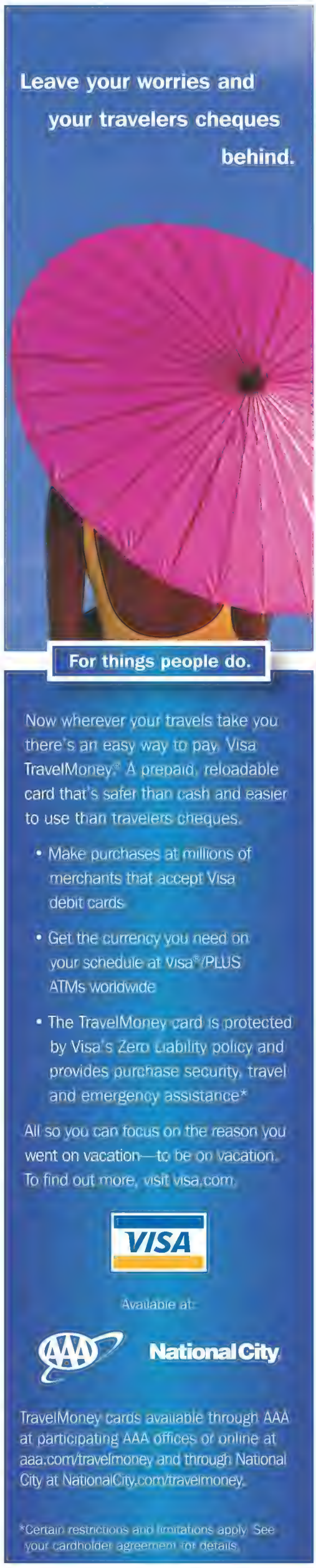
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answer Dickinson. Striving to conceal his contempt for his adversary, Adams spoke extemporaneously in subdued tones. Once again, he reviewed the benefits of independence. Although his speech was not transcribed, he surely invoked the ideas he had expressed and the phrases he had used on many another occasion. Breaking ties with Britain, he argued, would ensure freedom from England's imperial domination; escape from the menace of British corruption; and the opportunity to create a republic based on equality of representation.

Others then took the floor. The speeches stretched past the customary 4 o'clock adjournment and into the evening. The business was "an idle Mispence of Time," Adams remarked sourly, as "nothing was Said, but what had been repeated and hackneyed in that Room an hundred Times for Six Months past." After the Congress reconvened the next morning, July 2, the delegates cast their momentous votes. Twelve states—the colonies would become states with the vote—voted for independence. Not one voted against the break with Britain. New York's delegation, which had not yet been authorized by the New York legislature to separate from the mother country, did not vote. (Dickinson and Robert Morris did not attend, and Pennsylvania cast its vote for independence by a three-to-two margin.)

Adams predicted that July 2 would ever after "be solemnized with Pomp and Parade, with Shews, Games, Sports, Guns, Bells, Bonfires and Illuminations from one End of this Continent to the other." He was wrong, of course, for July 4, the date that Congress approved the formal Declaration of Independence, would become the commemorative day. But Adams had made one prediction that would prove tellingly correct. With the Union intact after a 15-month battle for independence, and with the step finally taken that could secure foreign assistance in America's desperate war, Adams declared he could "see the Rays of ravishing Light and Glory" that would accompany military victory.

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Plutarch's Exemplary Lives

An ancient Greek wrote the book on biography then and now – BY LANCE MORROW

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The zesty blend of anecdote and opinion that Plutarch (in a 1656 edition) pioneered in profiles of ancient Greeks and Romans still shape contemporary notions of classical history.

THE FIRST YEARS of the millennium have become, for interesting reasons, a golden age of popular political biography. The young British writer Simon Sebag Montefiore has just produced *Stalin: The Court of the Red Tsar*, a savagely intimate portrait of one of history's more impenetrable characters. In *Grace and Power*, Sally Bedell Smith has brought her impressive gifts as a reporter to bear upon the Kennedy White House. Ron Chernow, John D. Rockefeller's biographer, has written a brilliant new study of Alexander Hamilton. Doris Kearns Goodwin, biographer of the Kennedys and Eleanor and Franklin Roosevelt, will publish a new examination of Abraham Lincoln next spring. Edmund Morris is taking a break from his Theodore Roosevelt sequence to write a book about Beethoven. Robert Caro's epic life of Lyndon Johnson, now running to three volumes, with more to come, is one of the great American biographies.

And so on. In the age of chaotic electronic information, there seems to be an indefatigable production line turning out big, solid biographies, written to the weight and bulk of footlockers. It is as if Thomas Carlyle's Great Man theory of history, a rather heavy 19th-century idea, had been genetically crossed with *People* magazine to create a genre of historical infotainment: retrospection compounded of scholarship, vivid period drama and soap opera at the highest levels.

The current harvest of popular political biography—a higher and more literate form, perhaps, of the TV and tabloid stories that reigned

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Plutarch's literary heirs include (from left) blockbuster biographers Edmund Morris (Theodore Roosevelt), Doris Kearns Goodwin (Franklin and Eleanor Roosevelt), David McCullough (John Adams) and Sally Bedell Smith (the Kennedys).

during the decade of O.J., Diana, John Jr., Columbine, and Elián González—comes to us, in part, courtesy of the end of ideology and of the idea of historical inevitability. Human nature has reverted to its love of gossip and personalities and stories—narratives that have not essentially altered since people started exchanging scandalous news about the activities of the gods.

IF EDMUND MORRIS, David McCullough, Doris Kearns Goodwin and the rest of today's practitioners belong to a post-ideological order of public biography, their ancient progenitor, Plutarch, represents the pre-ideological origins of the form.

A Greek from a wealthy family born around A.D. 46 in east-central Greece, Plutarch lived in his own golden age, during the reigns of Nerva, Trajan and Hadrian. The author of more than 200 works, he is known primarily for his *Parallel Lives*, biographies that over the centuries have heavily shaped popular ideas of Greek and Roman history.

In his design of *Parallel Lives*, written in Attic Greek—the literary language used by the educated of the Roman Empire—Plutarch paired famous Romans with famous Greeks, presenting them side by side and then comparing them in a short essay. (Twenty-two such pairs survive.) Thus, for example, he contrasts the Greek orator Demosthenes with Rome's Cicero. He fetches far back sometimes into myth. He opens the *Lives* by comparing the Greek hero Theseus and Rome's co-founder Romulus—among other things indicting Theseus as a rapist (of Ariadne, Antiope, Anaxo the Troezenian and Helen) and giving some space to whether the so-called rape of the Sabines by Romulus was excusable as a kind of aggressive sociobiology.

Down the centuries, the same criticism has been aimed at *Parallel Lives* that is now directed at our biographical bestsellers: too much history by anecdote. The Victorian scholar Arthur Hugh Clough, who updated the poet John Dryden's superb translation of Plutarch to give us the best available version in English, remarked in an introduction: "It cannot be denied that [Plutarch] is careless about numbers, and occasionally contradicts his own statements. A greater fault, perhaps, is his passion for anecdote; he cannot forbear from repeating stories, the improbability of which he is the first to recognise."

Plutarch admits the impossibility of being accurate, opening his account of Lycurgus, the lawgiver of Sparta, by throwing up his hands: "There is so much uncertainty in the accounts which historians have left us . . . that scarcely anything is asserted by one of them which is not called into question or contradicted by the rest." Thus, one seeks not so much the historical fact as the exemplary story—the applicable anecdote, the usable history. But if life is anecdote, history is anecdote with life-and-death consequences, gossip enlarged to the scale of epic.

Writers instinctively love Plutarch, as professional ancestor and as resource. The first great modern essayist, Montaigne, remarked: "Those who write biographies, since they spend

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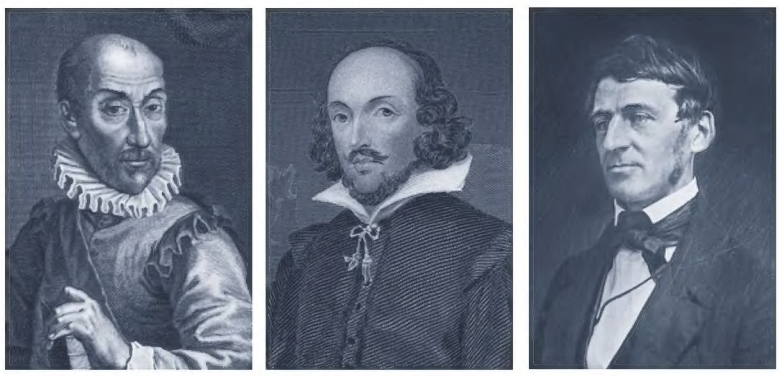
more time . . . on what comes from within than what happens without, are most suited to me. That is why, in every way, Plutarch is my man." Ralph Waldo Emerson, writing in his journal, permitted himself a racy metaphor that sounded like Walt Whitman: "Away with your prismatics. I want a spermatic book. . . . Plato, Plotinus & Plutarch are such."



French essayist Michel de Montaigne copied Plutarch's style, Shakespeare cribbed his plots and dialogue and Ralph Waldo Emerson admired his "spermatic" energy.

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Certainly Plutarch's *Lives* has been seminal; from its raw material, Western dramatists and poets—especially Shakespeare, of course, in *Coriolanus*, *Julius Caesar*, *Antony and Cleopatra*—have been extruding (er, stealing) plots and characters for nearly 2,000 years. Shakespeare's *Coriolanus* is intricately filched from Plutarch, whose *Lives* were first published in an English translation by Sir Thomas North in 1579. As for Shakespeare's *Julius Caesar*, here is a line from Plutarch's life of Brutus: "'It is not,' said [Caesar], 'the fat and the long-haired men that I fear, but the pale and the lean,' meaning Brutus and Cassius." Or as Shakespeare put it, "Yond Cassius has a lean and hungry look; he thinks too much: such men are dangerous."

Plutarch said that he wrote biography as a form of moralism, to "arouse the spirit of emulation." But his *Lives* were also a warning. *Coriolanus*, for example, has come down from Plutarch through Shakespeare as a caution against an arrogance so ruthless that it becomes savage narcissism.

"My design is not to write Histories, but lives," Plutarch explained. "And the most glorious exploits do not always furnish us with the clearest discoveries of virtue or vice in men, sometimes a matter of less moment, an expression or a jest, informs us better of their character and inclinations, than the most famous sieges, the greatest armaments. . . . "

Most of the characters, Greek and Roman, who come to us in the *Parallel Lives* had too much of the complexity of human nature to be either saints or villains. Plutarch was far too intelligent and urbane not to see the crosscurrents of their natures. What makes the *Lives* entertaining, and true after so many centuries, is, precisely, their continuing,

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1 John P. Long, et al., Five-year restrospective, multi-institutional pooled analysis of cancer-related outcomes after cryosurgical ablation of the prostate. *Urology* 57 (3), 2001.
2 Peschel RE, Colberg JW, Surgery, brachytherapy, and external-beam radiotherapy for early prostate cancer. *Lancet Oncol* 2003; 4: 233-41.
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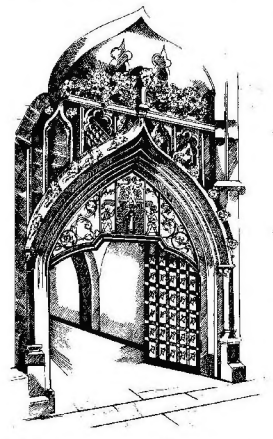

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Plutarch's voice is decent, tolerant, knowing—the voice of a grown-up.

vivid life—and their capacity to surprise.

There are no inevitabilities for the connoisseur of character. If the moralist in Plutarch urges toward perfection, the mature realist delights in inconsistencies, even perversities, of personality. Cato the Younger, that paragon of fierce austerity who tried to preserve the Roman Republic against power seekers such as Caesar, sometimes behaves pretty weirdly. Plutarch records that when Cato was made praetor (magistrate), "he would often come to the court without his shoes, and sit upon the bench without any undergarment, and in this attire give judgment in capital causes, and upon persons of the highest rank." Perhaps by way of explanation, Plutarch notes, "It is said, also, that he used to drink wine after his morning meal, and then transact the business of his office." Plutarch adds judiciously: "This was wrongfully reported of him."

Plutarch's voice is decent, tolerant, knowing—the voice of a grown-up. In his life of Cleomenes (III), Plutarch declares: "I write this . . . out of pity to the weakness of human nature."

Like Herodotus, that earlier connoisseur of heroes and myths, he savors the irrepressible peculiarities of people. Thus Plutarch is bemused—a little amazed—by the cultural shiftiness of Alcibiades, whose unscrupulous behavior helped stir up the Peleponnesian War: "Alcibiades, whether with good men or with bad, could adapt himself to his company, and equally wear the appearance of virtue or vice. At Sparta, he was devoted to athletic exercises, was frugal and reserved; in Ionia, luxurious, gay, and indolent; in Thrace, always drinking; in Thessaly, ever on horseback; and when he lived with Tissaphernes, the Persian

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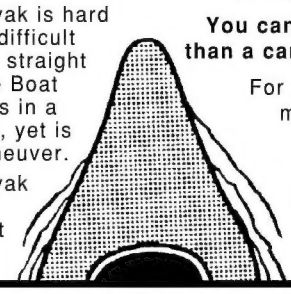

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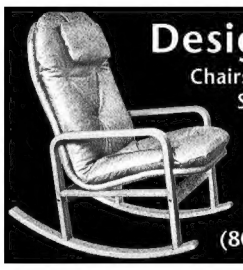

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satrap, he exceeded the Persians themselves in magnificence and pomp."

In his treatment of large figures, Plutarch also mixes a due respect and even reverence with strokes of deflation. He grants the preeminent Athenian leader Pericles "a weight and grandeur of sense, superior to all arts of popularity . . . elevation and sublimity of purpose and of character." But, he adds, "His head was somewhat longish and out of proportion. For which reason almost all the images and statues that were made of him have the head covered with a helmet. . . . The poets of Athens called him *Schinocephalos*, or squill-head, from *schinos*, a squill or sea-onion."

One savors Plutarch for such cunning, lifelike oddments. There is a lovely moment in his life of Caesar: "Cicero was the first who had any suspicions of [Caesar's] designs upon the government, and as a good pilot is apprehensive of a storm when the sea is most smiling, saw the designing temper of the man through this disguise of good humour and affability, and said, in general, that in all [Caesar] did and undertook, he detected the ambition for absolute power."

Cicero goes on: "But when I see his hair so carefully arranged, and observe him adjusting it with one finger, I cannot imagine it should enter into such a man's thoughts to subvert the Roman state." That "with one finger" is a little touch of narrative genius.

It is said against Plutarch that his characters do not develop—they only stand for types. But do any of us "develop?" Did Richard Nixon? Did Bill Clinton? Did Morris' Teddy Roosevelt, of whom British commissioner in Egypt Cecil Spring Rice remarked in 1902, a few months into Roosevelt's administration: "You must always remember that the President is about six." If Plutarch's men are types, they are rich types that give an antique gloss to Hemingway's line, "The most complicated subject that I know . . . is a man's life."

LANCE MORROW, an essayist for Time *magazine, also teaches at Boston University.*

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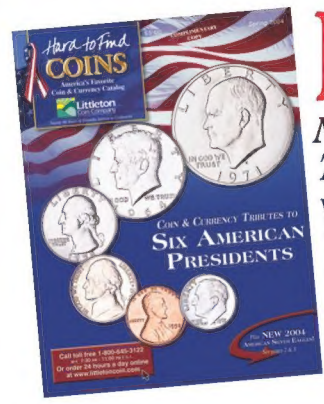

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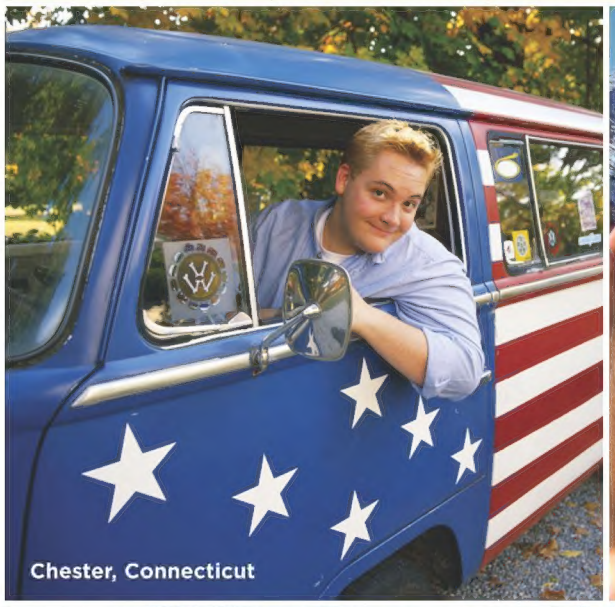

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